# **Univariate Analysis of Variance**

# **Between-Subjects Factors**

		N
Device	Normal	591
	tPad	591
Method	Clipped	612
	Normal	570
Size	Half	391
	Quarter	406
	ThreeQuarters	385
Participant	P1	108
	P10	108
	P11	108
	P12	45
	P2	108
	P3	108
	P4	107
	P5	88
	P6	102
	P7	90
	P8	102
	P9	108

Dependent Variable: ARTTime Millisfor Device

Dependent variable.At		Type III Sum		
Source		of Squares	df	Mean Square
Intercept	Hypothesis	3.883E8	1	3.883E8
	Error	2.502E7	11.030	2.268E6
Device	Hypothesis	1.799E7	1	1.799E7
	Error	2641633.307	10.218	258529.963 <sup>b</sup>
Method	Hypothesis	3570652.463	1	3570652.463
	Error	1947946.380	11.488	169563.036 <sup>c</sup>
Size	Hypothesis	559737.099	2	279868.549
	Error	2606625.964	22.783	114409.875 <sup>d</sup>
Participant	Hypothesis	2.531E7	11	2301029.797
	Error	1092672.972	4.250	257101.889 <sup>e</sup>
Device * Method	Hypothesis	192632.730	1	192632.730
	Error	1419666.958	10.425	136175.887 <sup>†</sup>
Device * Size	Hypothesis	964540.220	2	482270.110
	Error	3126476.473	20.005	156284.831 <sup>g</sup>
Device * Participant	Hypothesis	2620112.942	10	262011.294
	Error	1573388.597	8.315	189230.254 <sup>h</sup>
Method * Size	Hypothesis	1511116.685	2	755558.343
	Error	2226876.734	21.303	104535.549 <sup>i</sup>
Method * Participant	Hypothesis	1880021.335	11	170911.030
	Error	743647.092	5.489	135472.840 <sup>j</sup>
Size * Participant	Hypothesis	2523788.070	22	114717.640
	Error	1404985.062	9.028	155632.907 <sup>k</sup>

a. .984 MS(Participant) + .007 MS(Device \* Participant) + 7.95E-005 MS(Method \* Participant) + .000 MS (Size \* Participant) + .001 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .003 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) - .005 MS(Error) b. .976 MS(Device \* Participant) + .002 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .023 MS(Device \* Method \* Size \* Participant) - .002 MS(Error) c. .971 MS(Method \* Participant) + .009 MS(Device \* Method \* Participant) + .005 MS(Method \* Size \* Participant) + .005 MS(Error) d. .980 MS(Size \* Participant) + .003 MS(Device \* Size \* Participant) + .005 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) + .009 MS(Device \* Participant) + .004 MS(Method \* Participant) + .009 MS(Device \* Participant) + .004 MS(Method \* Participant) + .009 MS(Size \* Participant) - 1.085 MS(Device \* Method \* Participant) - 1.043 MS(Device \* Size \* Participant) - .004 MS(Method \* Size \* Participant) - .003 MS(Error) g. .997 MS(Device \* Method \* Participant) + .028 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) h. 1.069 MS(Device \* Method \* Participant) + .004 MS(Device \* Method \* Size \* Participant) - 1.100 MS(Device \* Method \* Size \* Participant) - 1.005 MS(Error) h. 1.069 MS(Device \* Method \* Participant) + .003 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.005 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.005 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size

Dependent Variable:ARTTimeMillisforDevice

Source		F	Sig.
Intercept	Hypothesis	171.186	.000
Device	Hypothesis	69.603	.000
Method	Hypothesis	21.058	.001
Size	Hypothesis	2.446	.109
Participant	Hypothesis	8.950	.021
Device * Method	Hypothesis	1.415	.261
Device * Size	Hypothesis	3.086	.068
Device * Participant	Hypothesis	1.385	.325
Method * Size	Hypothesis	7.228	.004
Method * Participant	Hypothesis	1.262	.414
Size * Participant	Hypothesis	.737	.734

Dependent Variable:ARTTimeMillisforDevice

Source		Type III Sum of Squares	df	Mean Square
Device * Method * Size	Hypothesis	3688352.470	2	1844176.235
	Error	1724123.215	16.088	107165.123 <sup>1</sup>
Device * Method *	Hypothesis	1367578.216	10	136757.822
Participant	Error	1719046.215	16.007	107395.807 <sup>m</sup>
Device * Size * Participant	Hypothesis	3135865.654	20	156793.283
	Error	1713230.135	15.913	107663.851 <sup>n</sup>
Method * Size *	Hypothesis	2202566.537	21	104884.121
Participant	Error	1715906.707	15.956	107539.989 °
Device * Method * Size *	Hypothesis	1718634.419	16	107414.651
Participant	Error	6.105E7	1049	58198.737 <sup>p</sup>

I. .995 MS(Device \* Method \* Size \* Participant) + .005 MS(Error)
m. 1.000 MS(Device \* Method \* Size \* Participant) + .000 MS(Error)
n. 1.005 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
o. 1.003 MS(Device \* Method \* Size \* Participant) - .003 MS(Error)
p. MS(Error)

Dependent Variable:ARTTimeMillisforDevice

Source		F	Sig.
Device * Method * Size	Hypothesis	17.209	.000
Device * Method * Participant	Hypothesis	1.273	.322
Device * Size * Participant	Hypothesis	1.456	.225
Method * Size * Participant	Hypothesis	.975	.530
Device * Method * Size * Participant	Hypothesis	1.846	.022

Dependent Variable:ARTTimeMillisforMethod

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.816E8	1	3.816E8
	Error	2.359E7	11.035	2.138E6
Device	Hypothesis	248897.147	1	248897.147
	Error	2936806.355	10.217	287438.245 <sup>b</sup>
Method	Hypothesis	2.397E7	1	2.397E7
	Error	1863989.139	11.615	160477.386 <sup>c</sup>
Size	Hypothesis	1617122.145	2	808561.072
	Error	2250571.722	22.881	98359.456 <sup>d</sup>
Participant	Hypothesis	2.385E7	11	2168300.694
	Error	735578.947	3.055	240805.541 <sup>e</sup>
Device * Method	Hypothesis	806769.776	1	806769.776
	Error	2063612.181	10.314	200079.098 <sup>f</sup>
Device * Size	Hypothesis	1964274.472	2	982137.236
	Error	2798380.434	19.981	140049.748 <sup>9</sup>
Device * Participant	Hypothesis	2913196.295	10	291319.630
	Error	1884957.149	8.085	233146.324 <sup>h</sup>
Method * Size	Hypothesis	3645363.130	2	1822681.565
	Error	1719503.651	21.375	80445.593
Method * Participant	Hypothesis	1769401.177	11	160854.652
	Error	873985.275	5.131	170330.486 <sup>j</sup>
Size * Participant	Hypothesis	2165021.260	22	98410.057
	Error	495872.013	4.725	104957.025 <sup>k</sup>

a. .984 MS(Participant) + .007 MS(Device \* Participant) + 7.95E-005 MS(Method \* Participant) + .000 MS (Size \* Participant) + .001 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .003 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) - .005 MS(Error) b. .976 MS(Device \* Participant) + .002 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .023 MS(Device \* Method \* Size \* Participant) + .002 MS(Error) c. .971 MS(Method \* Participant) + .009 MS(Device \* Method \* Participant) + .005 MS(Method \* Size \* Participant) + .005 MS(Error) d. .980 MS(Size \* Participant) + .003 MS(Device \* Method \* Size \* Participant) + .005 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) + .009 MS(Method \* Size \* Participant) + .009 MS(Device \* Participant) + .004 MS(Method \* Participant) + .009 MS(Device \* Participant) + 1.040 MS(Method \* Participant) + 1.048 MS(Method \* Size \* Participant) + .003 MS(Error) g. .997 MS(Device \* Method \* Participant) + .028 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) h. 1.069 MS(Device \* Method \* Participant) + 1.026 MS(Device \* Size \* Participant) - 1.100 MS(Device \* Method \* Size \* Participant) + .003 MS(Error) i. .990 MS(Method \* Size \* Participant) + .003 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - .001 MS(Error) i. .990 MS(Method \* Size \* Participant) + .003 MS(Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - .001 MS(Error) i. .990 MS(Method \* Size \* Participant) + .003 MS(Method \* Size \* Participant) - .001 MS(Error) i. .990 MS(Method \* Participant) + .003 MS(Method \* Size \* Participant) - .004 MS(Error) i. .990 MS(Method \* Participant) + .004 MS(Error) i. .990 MS(Method \* Participant) + .004 MS(Error) i. .903 MS(Device \* Method \* Participant) + .004 MS(Device \* Method \* Size \* Pa

Dependent Variable: ARTTime Millis for Method

Source		F	Sig.
Intercept	Hypothesis	178.507	.000
Device	Hypothesis	.866	.374
Method	Hypothesis	149.346	.000
Size	Hypothesis	8.220	.002
Participant	Hypothesis	9.004	.046
Device * Method	Hypothesis	4.032	.072
Device * Size	Hypothesis	7.013	.005
Device * Participant	Hypothesis	1.250	.383
Method * Size	Hypothesis	22.657	.000
Method * Participant	Hypothesis	.944	.566
Size * Participant	Hypothesis	.938	.597

Dependent Variable:ARTTimeMillisforMethod

Source		Type III Sum of Squares	df	Mean Square
Device * Method * Size	Hypothesis	5781151.113	2	2890575.556
	Error	1855550.426	16.071	115459.970 <sup>l</sup>
Device * Method *	Hypothesis	2020299.841	10	202029.984
Participant	Error	1852886.341	16.005	115766.853 <sup>m</sup>
Device * Size * Participant	Hypothesis	2811766.021	20	140588.301
	Error	1849848.463	15.930	116123.436 <sup>n</sup>
Method * Size *	Hypothesis	1692117.802	21	80577.038
Participant	Error	1851244.615	15.965	115958.661 <sup>o</sup>
Device * Method * Size *	Hypothesis	1852670.753	16	115791.922
Participant	Error	5.278E7	1049	50319.151 <sup>p</sup>

I. .995 MS(Device \* Method \* Size \* Participant) + .005 MS(Error) m. 1.000 MS(Device \* Method \* Size \* Participant) + .000 MS(Error) n. 1.005 MS(Device \* Method \* Size \* Participant) - .005 MS(Error) o. 1.003 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) p. MS(Error)

Dependent Variable:ARTTimeMillisforMethod

Source		F	Sig.
Device * Method * Size	Hypothesis	25.035	.000
Device * Method * Participant	Hypothesis	1.745	.155
Device * Size * Participant	Hypothesis	1.211	.353
Method * Size * Participant	Hypothesis	.695	.785
Device * Method * Size * Participant	Hypothesis	2.301	.003

Dependent Variable:ARTTimeMillisforSize

Dependent Variable.Al		Type III Sum		
Source		of Squares	df	Mean Square
Intercept	Hypothesis	3.905E8	1	3.905E8
	Error	3.134E7	11.028	2.842E6
Device	Hypothesis	159510.331	1	159510.331
	Error	3143002.226	10.213	307749.457 <sup>b</sup>
Method	Hypothesis	5604395.250	1	5604395.250
	Error	2424143.676	11.464	211460.699 <sup>c</sup>
Size	Hypothesis	313292.056	2	156646.028
	Error	2619312.518	22.860	114579.335 <sup>d</sup>
Participant	Hypothesis	3.172E7	11	2883355.934
	Error	1665999.794	5.026	331443.563 <sup>e</sup>
Device * Method	Hypothesis	1183052.611	1	1183052.611
	Error	1826471.664	10.383	175907.658 <sup>f</sup>
Device * Size	Hypothesis	1638873.401	2	819436.700
	Error	3049727.690	20.003	152464.724 <sup>9</sup>
Device * Participant	Hypothesis	3119708.933	10	311970.893
	Error	1520111.957	7.275	208938.484 <sup>h</sup>
Method * Size	Hypothesis	3436303.956	2	1718151.978
	Error	2243085.899	21.346	105082.992 <sup>i</sup>
Method * Participant	Hypothesis	2347050.853	11	213368.259
	Error	809849.325	5.081	159380.154 <sup>j</sup>
Size * Participant	Hypothesis	2523221.625	22	114691.892
	Error	812857.604	6.096	133331.941 <sup>k</sup>

a. .984 MS(Participant) + .007 MS(Device \* Participant) + 7.95E-005 MS(Method \* Participant) + .000 MS
(Size \* Participant) + .001 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .003
MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
b. .976 MS(Device \* Participant) + .002 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \*
Participant) + .023 MS(Device \* Method \* Size \* Participant) - .002 MS(Error)
c. .971 MS(Method \* Participant) + .009 MS(Device \* Method \* Participant) + .005 MS(Method \* Size \*
Participant) + .020 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
d. .980 MS(Size \* Participant) + .003 MS(Device \* Size \* Participant) + .002 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) + 1.009 MS(Device \* Participant) + 1.040 MS(Method \* Participant) + 1.009 MS(Size \* Participant) + 1.040 MS(Method \* Participant) + 1.009 MS(Size \* Participant) - 1.045 MS(Device \* Method \* Participant) - 1.043 MS(Device \* Size \* Participant) - 1.048 MS(Method \* Size \*
Participant) + 1.115 MS(Device \* Method \* Size \* Participant) - .003 MS(Error)
f. .975 MS(Device \* Method \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .007 MS(Error)
h. 1.069 MS(Device \* Method \* Participant) + 1.026 MS(Device \* Size \* Participant) - 1.100 MS(Device \* Method \* Size \* Participant) + .005 MS(Error)
i. .990 MS(Method \* Size \* Participant) + .003 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Participant) + 1.003 MS(Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 M

Dependent Variable:ARTTimeMillisforSize

Source		F	Sig.
Intercept	Hypothesis	137.398	.000
Device	Hypothesis	.518	.488
Method	Hypothesis	26.503	.000
Size	Hypothesis	1.367	.275
Participant	Hypothesis	8.699	.013
Device * Method	Hypothesis	6.725	.026
Device * Size	Hypothesis	5.375	.014
Device * Participant	Hypothesis	1.493	.301
Method * Size	Hypothesis	16.350	.000
Method * Participant	Hypothesis	1.339	.393
Size * Participant	Hypothesis	.860	.639

Dependent Variable:ARTTimeMillisforSize

Source		Type III Sum of Squares	df	Mean Square
Device * Method * Size	Hypothesis	5631189.497	2	2815594.749
	Error	2007621.064	16.086	124803.427 <sup>l</sup>
Device * Method *	Hypothesis	1770226.574	10	177022.657
Participant	Error	2002090.300	16.006	125080.015 <sup>m</sup>
Device * Size * Participant	Hypothesis	3059374.237	20	152968.712
	Error	1995755.894	15.915	125401.398 <sup>n</sup>
Method * Size *	Hypothesis	2211851.456	21	105326.260
Participant	Error	1998670.800	15.957	125252.888 <sup>o</sup>
Device * Method * Size *	Hypothesis	2001641.752	16	125102.610
Participant	Error	6.933E7	1049	66093.115 <sup>p</sup>

I. .995 MS(Device \* Method \* Size \* Participant) + .005 MS(Error) m. 1.000 MS(Device \* Method \* Size \* Participant) + .000 MS(Error) n. 1.005 MS(Device \* Method \* Size \* Participant) - .005 MS(Error) o. 1.003 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) p. MS(Error)

Dependent Variable:ARTTimeMillisforSize

Source		F	Sig.
Device * Method * Size	Hypothesis	22.560	.000
Device * Method * Participant	Hypothesis	1.415	.258
Device * Size * Participant	Hypothesis	1.220	.347
Method * Size * Participant	Hypothesis	.841	.651
Device * Method * Size * Participant	Hypothesis	1.893	.018

Dependent Variable:ARTTimeMillisforDeviceMethod

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.915E8	1	3.915E8
·	Error	3.074E7	11.029	2.787E6
Device	Hypothesis	93485.604	1	93485.604
	Error	3315515.066	10.195	325206.211 <sup>b</sup>
Method	Hypothesis	4489209.783	1	4489209.783
	Error	2269434.010	11.513	197119.396 <sup>c</sup>
Size	Hypothesis	878996.567	2	439498.284
	Error	2532211.693	22.894	110605.697 <sup>d</sup>
Participant	Hypothesis	3.110E7	11	2827712.454
	Error	901914.057	3.265	276213.810 <sup>e</sup>
Device * Method	Hypothesis	4542910.749	1	4542910.749
	Error	1976224.496	10.333	191250.015 <sup>f</sup>
Device * Size	Hypothesis	1303113.639	2	651556.819
	Error	3257892.445	20.007	162839.606 <sup>g</sup>
Device * Participant	Hypothesis	3299555.962	10	329955.596
	Error	2142964.577	8.803	243438.423 <sup>h</sup>
Method * Size	Hypothesis	2011592.405	2	1005796.202
	Error	2615513.406	21.287	122868.603 <sup>i</sup>
Method * Participant	Hypothesis	2183159.927	11	198469.084
	Error	1405929.679	7.013	200488.439 <sup>j</sup>
Size * Participant	Hypothesis	2433915.048	22	110632.502
	Error	1517005.663	8.968	169166.454 <sup>k</sup>

a. .984 MS(Participant) + .007 MS(Device \* Participant) + 7.95E-005 MS(Method \* Participant) + .000 MS
(Size \* Participant) + .001 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .003
MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
b. .976 MS(Device \* Participant) + .002 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \*
Participant) + .023 MS(Device \* Method \* Size \* Participant) - .002 MS(Error)
c. .971 MS(Method \* Participant) + .009 MS(Device \* Method \* Participant) + .005 MS(Method \* Size \*
Participant) + .020 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
d. .980 MS(Size \* Participant) + .003 MS(Device \* Size \* Participant) + .002 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) + 1.009 MS(Device \* Participant) + 1.040 MS(Method \* Participant) + 1.009 MS(Size \* Participant) - 1.045 MS(Device \* Method \* Participant) - 1.043 MS(Device \* Size \* Participant) - 1.048 MS(Method \* Size \*
Participant) + 1.115 MS(Device \* Method \* Size \* Participant) - .003 MS(Error)
f. .975 MS(Device \* Method \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .003 MS(Error)
h. 1.069 MS(Device \* Method \* Participant) + 1.026 MS(Device \* Method \* Size \* Participant) - 1.100 MS(Device \* Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - 1.005 MS(Error)
i. .990 MS(Method \* Size \* Participant) + .005 MS(Error)
i. .990 MS(Method \* Size \* Participant) + .003 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Participant) + .003 MS(Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - .001 MS(Error)
i. .900 MS(Device \* Method \* Participant) + .003 MS(Method \* Size \* Participant) - 1.004 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .005 MS(Device \* Method \* Size \* Participant) - .005 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .004 MS(D

Dependent Variable:ARTTimeMillisforDeviceMethod

Source		F	Sig.
Intercept	Hypothesis	140.463	.000
Device	Hypothesis	.287	.603
Method	Hypothesis	22.774	.001
Size	Hypothesis	3.974	.033
Participant	Hypothesis	10.237	.033
Device * Method	Hypothesis	23.754	.001
Device * Size	Hypothesis	4.001	.035
Device * Participant	Hypothesis	1.355	.331
Method * Size	Hypothesis	8.186	.002
Method * Participant	Hypothesis	.990	.526
Size * Participant	Hypothesis	.654	.801

Dependent Variable:ARTTimeMillisforDeviceMethod

Source		Type III Sum of Squares	df	Mean Square
Device * Method * Size	Hypothesis	4542365.657	2	2271182.829
	Error	1908709.790	16.090	118629.635 <sup>l</sup>
Device * Method *	Hypothesis	1929326.102	10	192932.610
Participant	Error	1902895.547	16.007	118880.965 <sup>m</sup>
Device * Size * Participant	Hypothesis	3267241.713	20	163362.086
	Error	1896234.188	15.912	119172.997 <sup>n</sup>
Method * Size *	Hypothesis	2589788.543	21	123323.264
Participant	Error	1899299.855	15.955	119038.050 °
Device * Method * Size *	Hypothesis	1902423.928	16	118901.495
Participant	Error	6.848E7	1049	65281.019 <sup>p</sup>

I. .995 MS(Device \* Method \* Size \* Participant) + .005 MS(Error) m. 1.000 MS(Device \* Method \* Size \* Participant) + .000 MS(Error) n. 1.005 MS(Device \* Method \* Size \* Participant) - .005 MS(Error) o. 1.003 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) p. MS(Error)

Dependent Variable: ARTTime Millis for Device Method

Source		F	Sig.
Device * Method * Size	Hypothesis	19.145	.000
Device * Method * Participant	Hypothesis	1.623	.187
Device * Size * Participant	Hypothesis	1.371	.264
Method * Size * Participant	Hypothesis	1.036	.479
Device * Method * Size * Participant	Hypothesis	1.821	.024

Dependent Variable:ARTTimeMillisforDeviceSize

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.914E8	1	3.914E8
·	Error	3.227E7	11.028	2.926E6
Device	Hypothesis	200529.536	1	200529.536
	Error	3192985.615	10.205	312875.215 <sup>b</sup>
Method	Hypothesis	6008572.791	1	6008572.791
	Error	2641543.032	11.413	231456.898 <sup>c</sup>
Size	Hypothesis	1180897.125	2	590448.562
	Error	2135962.062	23.093	92495.379 <sup>d</sup>
Participant	Hypothesis	3.265E7	11	2968613.524
	Error	1456533.843	4.545	320450.889 <sup>e</sup>
Device * Method	Hypothesis	1234329.816	1	1234329.816
	Error	1656138.037	10.417	158978.663 <sup>f</sup>
Device * Size	Hypothesis	1081073.348	2	540536.674
	Error	3302112.964	20.002	165090.700 <sup>g</sup>
Device * Participant	Hypothesis	3172850.306	10	317285.031
	Error	1585143.965	7.699	205876.395 <sup>h</sup>
Method * Size	Hypothesis	3187503.455	2	1593751.727
	Error	2603406.272	21.290	122282.107 <sup>i</sup>
Method * Participant	Hypothesis	2574793.910	11	234072.174
	Error	925729.511	5.745	161136.817 <sup>j</sup>
Size * Participant	Hypothesis	2026536.374	22	92115.290
	Error	1406319.296	8.438	166666.424 <sup>k</sup>

a. .984 MS(Participant) + .007 MS(Device \* Participant) + 7.95E-005 MS(Method \* Participant) + .000 MS
(Size \* Participant) + .001 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .003
MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
b. .976 MS(Device \* Participant) + .002 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \*
Participant) + .023 MS(Device \* Method \* Size \* Participant) - .002 MS(Error)
c. .971 MS(Method \* Participant) + .009 MS(Device \* Method \* Participant) + .005 MS(Method \* Size \*
Participant) + .020 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
d. .980 MS(Size \* Participant) + .003 MS(Device \* Size \* Participant) + .002 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) + 1.009 MS(Device \* Participant) + 1.040 MS(Method \* Participant) + 1.009 MS(Size \* Participant) + 1.040 MS(Method \* Participant) + 1.009 MS(Size \* Participant) - 1.045 MS(Device \* Method \* Participant) - 1.043 MS(Device \* Size \* Participant) - 1.048 MS(Method \* Size \*
Participant) + 1.115 MS(Device \* Method \* Size \* Participant) - .003 MS(Error)
f. .975 MS(Device \* Method \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .007 MS(Error)
h. 1.069 MS(Device \* Method \* Participant) + 1.026 MS(Device \* Size \* Participant) - 1.100 MS(Device \* Method \* Size \* Participant) + .005 MS(Error)
i. .990 MS(Method \* Size \* Participant) + .003 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Participant) + 1.003 MS(Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 M

Dependent Variable:ARTTimeMillisforDeviceSize

Source		F	Sig.
Intercept	Hypothesis	133.761	.000
Device	Hypothesis	.641	.442
Method	Hypothesis	25.960	.000
Size	Hypothesis	6.384	.006
Participant	Hypothesis	9.264	.016
Device * Method	Hypothesis	7.764	.019
Device * Size	Hypothesis	3.274	.059
Device * Participant	Hypothesis	1.541	.280
Method * Size	Hypothesis	13.033	.000
Method * Participant	Hypothesis	1.453	.341
Size * Participant	Hypothesis	.553	.873

Dependent Variable:ARTTimeMillisforDeviceSize

Source		Type III Sum of Squares	df	Mean Square
Device * Method * Size	Hypothesis	7159977.784	2	3579988.892
	Error	1971841.973	16.086	122583.953 <sup>l</sup>
Device * Method *	Hypothesis	1597194.761	10	159719.476
Participant	Error	1966514.958	16.006	122857.813 <sup>m</sup>
Device * Size * Participant	Hypothesis	3312817.053	20	165640.853
	Error	1960414.368	15.916	123176.025 <sup>n</sup>
Method * Size *	Hypothesis	2577238.624	21	122725.649
Participant	Error	1963221.616	15.957	123028.981 °
Device * Method * Size *	Hypothesis	1966082.950	16	122880.184
Participant	Error	6.761E7	1049	64452.762 <sup>p</sup>

I. .995 MS(Device \* Method \* Size \* Participant) + .005 MS(Error)
m. 1.000 MS(Device \* Method \* Size \* Participant) + .000 MS(Error)
n. 1.005 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
o. 1.003 MS(Device \* Method \* Size \* Participant) - .003 MS(Error)
p. MS(Error)

Dependent Variable:ARTTimeMillisforDeviceSize

Source		F	Sig.
Device * Method * Size	Hypothesis	29.204	.000
Device * Method * Participant	Hypothesis	1.300	.309
Device * Size * Participant	Hypothesis	1.345	.277
Method * Size * Participant	Hypothesis	.998	.511
Device * Method * Size * Participant	Hypothesis	1.907	.017

Dependent Variable:ARTTimeMillisforMethodSize

Source		Type III Sum of Squares	df	Mean Square
Intercept	Hypothesis	3.911E8	1	3.911E8
	Error	3.137E7	11.028	2.845E6
Device	Hypothesis	166392.418	1	166392.418
	Error	3191239.080	10.205	312720.276 <sup>b</sup>
Method	Hypothesis	5575334.012	1	5575334.012
	Error	2503712.372	11.471	218259.910 <sup>c</sup>
Size	Hypothesis	1785721.101	2	892860.550
	Error	2256510.583	23.019	98027.981 <sup>d</sup>
Participant	Hypothesis	3.175E7	11	2885932.900
	Error	870848.851	3.194	272616.651 <sup>e</sup>
Device * Method	Hypothesis	1287187.163	1	1287187.163
	Error	1963247.392	10.341	189847.402 <sup>†</sup>
Device * Size	Hypothesis	1963795.723	2	981897.862
	Error	3082182.072	20.006	154059.249 <sup>g</sup>
Device * Participant	Hypothesis	3171363.399	10	317136.340
	Error	1875438.823	8.127	230768.976 <sup>h</sup>
Method * Size	Hypothesis	313845.569	2	156922.785
	Error	2875244.704	21.264	135218.413
Method * Participant	Hypothesis	2421735.660	11	220157.787
	Error	1570706.568	7.497	209511.922 <sup>J</sup>
Size * Participant	Hypothesis	2151222.542	22	97782.843
	Error	1542863.917	9.027	170910.928 <sup>k</sup>

a. .984 MS(Participant) + .007 MS(Device \* Participant) + 7.95E-005 MS(Method \* Participant) + .000 MS (Size \* Participant) + .001 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .003 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) - .005 MS(Error) b. .976 MS(Device \* Participant) + .002 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .023 MS(Device \* Method \* Size \* Participant) - .002 MS(Error) c. .971 MS(Method \* Participant) + .009 MS(Device \* Method \* Participant) + .005 MS(Method \* Size \* Participant) + .005 MS(Error) d. .980 MS(Size \* Participant) + .003 MS(Device \* Size \* Participant) + .005 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) + .006 MS(Error) d. .980 MS(Device \* Participant) + .004 MS(Method \* Participant) + .008 MS(Error) d. .1014 MS(Device \* Participant) + 1.040 MS(Method \* Participant) + 1.009 MS(Size \* Participant) - 1.085 MS(Device \* Method \* Participant) - 1.043 MS(Device \* Size \* Participant) - 1.048 MS(Method \* Size \* Participant) + 1.049 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) d. .997 MS(Device \* Method \* Participant) + .028 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) d. .997 MS(Device \* Method \* Participant) + 1.026 MS(Device \* Method \* Size \* Participant) - 1.100 MS(Device \* Method \* Size \* Participant) + .005 MS(Error) d. .990 MS(Method \* Size \* Participant) + .005 MS(Error) d. .990 MS(Method \* Size \* Participant) + .003 MS(Device \* Method \* Size \* Participant) - .004 MS(Error) d. .004 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .005 MS(Device \* Method \* Size \* Participant) - .005 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .005 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* S

Dependent Variable:ARTTimeMillisforMethodSize

Source		F	Sig.
Intercept	Hypothesis	137.486	.000
Device	Hypothesis	.532	.482
Method	Hypothesis	25.544	.000
Size	Hypothesis	9.108	.001
Participant	Hypothesis	10.586	.033
Device * Method	Hypothesis	6.780	.026
Device * Size	Hypothesis	6.374	.007
Device * Participant	Hypothesis	1.374	.331
Method * Size	Hypothesis	1.161	.332
Method * Participant	Hypothesis	1.051	.488
Size * Participant	Hypothesis	.572	.863

Dependent Variable:ARTTimeMillisforMethodSize

Source		Type III Sum of Squares	df	Mean Square
Device * Method * Size	Hypothesis	5263717.227	2	2631858.614
	Error	1938375.081	16.089	120477.698 <sup>l</sup>
Device * Method *	Hypothesis	1914427.914	10	191442.791
Participant	Error	1932566.438	16.007	120734.941 <sup>m</sup>
Device * Size * Participant	Hypothesis	3091091.094	20	154554.555
	Error	1925911.832	15.912	121033.845 <sup>n</sup>
Method * Size *	Hypothesis	2851662.191	21	135793.438
Participant	Error	1928974.346	15.956	120895.723 °
Device * Method * Size *	Hypothesis	1932095.285	16	120755.955
Participant	Error	6.910E7	1049	65873.776 <sup>p</sup>

I. .995 MS(Device \* Method \* Size \* Participant) + .005 MS(Error)
m. 1.000 MS(Device \* Method \* Size \* Participant) + .000 MS(Error)
n. 1.005 MS(Device \* Method \* Size \* Participant) - .005 MS(Error)
o. 1.003 MS(Device \* Method \* Size \* Participant) - .003 MS(Error)
p. MS(Error)

Dependent Variable:ARTTimeMillisforMethodSize

Source		F	Sig.
Device * Method * Size	Hypothesis	21.845	.000
Device * Method * Participant	Hypothesis	1.586	.198
Device * Size * Participant	Hypothesis	1.277	.313
Method * Size * Participant	Hypothesis	1.123	.412
Device * Method * Size * Participant	Hypothesis	1.833	.023

Dependent Variable:ARTTimeMillisforDeviceMethodSize

Dependent variable.At		Type III Sum		
Source		of Squares	df	Mean Square
Intercept	Hypothesis	3.919E8	1	3.919E8
	Error	3.034E7	11.028	2.751E6
Device	Hypothesis	167634.403	1	167634.403
	Error	3186079.715	10.199	312402.971 <sup>b</sup>
Method	Hypothesis	5903767.362	1	5903767.362
	Error	2680899.025	11.411	234950.135 <sup>c</sup>
Size	Hypothesis	2141262.430	2	1070631.215
	Error	2584162.183	22.874	112973.432 <sup>d</sup>
Participant	Hypothesis	3.070E7	11	2791027.910
	Error	1062629.389	3.587	296248.640 <sup>e</sup>
Device * Method	Hypothesis	1220201.799	1	1220201.799
	Error	2008537.722	10.313	194755.957 <sup>f</sup>
Device * Size	Hypothesis	3435074.272	2	1717537.136
	Error	3716375.729	20.011	185718.066 <sup>9</sup>
Device * Participant	Hypothesis	3169108.450	10	316910.845
	Error	2904989.122	10.524	276025.512 <sup>h</sup>
Method * Size	Hypothesis	2648817.046	2	1324408.523
	Error	2155501.106	21.347	100972.149
Method * Participant	Hypothesis	2613893.654	11	237626.696
	Error	1171833.989	6.267	186979.096 <sup>j</sup>
Size * Participant	Hypothesis	2487115.793	22	113050.718
	Error	1628001.852	9.302	175023.931 <sup>k</sup>

a. .984 MS(Participant) + .007 MS(Device \* Participant) + 7.95E-005 MS(Method \* Participant) + .000 MS (Size \* Participant) + .001 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .003 MS(Method \* Size \* Participant) + .009 MS(Device \* Method \* Size \* Participant) - .005 MS(Error) b. .976 MS(Device \* Participant) + .002 MS(Device \* Method \* Participant) + .001 MS(Device \* Size \* Participant) + .023 MS(Device \* Method \* Size \* Participant) - .002 MS(Error) c. .971 MS(Method \* Participant) + .009 MS(Device \* Method \* Participant) + .005 MS(Method \* Size \* Participant) + .005 MS(Error) d. .980 MS(Size \* Participant) + .003 MS(Device \* Method \* Size \* Participant) + .005 MS(Error) d. .980 MS(Size \* Participant) + .003 MS(Device \* Size \* Participant) + .009 MS(Method \* Size \* Participant) + .009 MS(Device \* Participant) + .004 MS(Method \* Participant) + .009 MS(Method \* Size \* Participant) + .009 MS(Size \* Participant) - 1.045 MS(Device \* Method \* Participant) - 1.043 MS(Device \* Size \* Participant) - 1.048 MS(Method \* Size \* Participant) + .004 MS(Method \* Size \* Participant) - .003 MS(Error) g. .997 MS(Device \* Method \* Participant) + .028 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) h. 1.069 MS(Device \* Method \* Participant) + .004 MS(Device \* Method \* Size \* Participant) - 1.100 MS(Device \* Method \* Size \* Participant) - 1.043 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - .003 MS(Error) j. 1.042 MS(Device \* Method \* Participant) + .003 MS(Method \* Size \* Participant) - 1.044 MS(Device \* Method \* Size \* Participant) - .001 MS(Error) k. 1.033 MS(Device \* Method \* Participant) + .004 MS(Method \* Size \* Participant) - 1.065 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Size \* Participant) - 1.065 MS(Device \* Method \* Size \* Participant) - .004 MS(Device \* Method \* Si

Dependent Variable:ARTTimeMillisforDeviceMethodSize

Source		F	Sig.
Intercept	Hypothesis	142.447	.000
Device	Hypothesis	.537	.480
Method	Hypothesis	25.128	.000
Size	Hypothesis	9.477	.001
Participant	Hypothesis	9.421	.029
Device * Method	Hypothesis	6.265	.031
Device * Size	Hypothesis	9.248	.001
Device * Participant	Hypothesis	1.148	.412
Method * Size	Hypothesis	13.117	.000
Method * Participant	Hypothesis	1.271	.398
Size * Participant	Hypothesis	.646	.809

Dependent Variable:ARTTimeMillisforDeviceMethodSize

Source		Type III Sum of Squares	df	Mean Square
Device * Method * Size	Hypothesis	405464.004	2	202732.002
	Error	1835741.614	16.095	114059.805 <sup>l</sup>
Device * Method * Participant	Hypothesis	1966628.726	10	196662.873
	Error	1829376.999	16.007	114285.365 <sup>m</sup>
Device * Size * Participant	Hypothesis	3725902.937	20	186295.147
	Error	1822082.667	15.907	114547.454 <sup>n</sup>
Method * Size * Participant	Hypothesis	2125244.218	21	101202.106
	Error	1825439.965	15.953	114426.344 <sup>o</sup>
Device * Method * Size * Participant	Hypothesis	1828860.652	16	114303.791
	Error	6.942E7	1049	66181.182 <sup>p</sup>

- I. .995 MS(Device \* Method \* Size \* Participant) + .005 MS(Error) m. 1.000 MS(Device \* Method \* Size \* Participant) + .000 MS(Error) n. 1.005 MS(Device \* Method \* Size \* Participant) .005 MS(Error) o. 1.003 MS(Device \* Method \* Size \* Participant) .003 MS(Error) p. MS(Error)

Dependent Variable:ARTTimeMillisforDeviceMethodSize

Source		F	Sig.
Device * Method * Size	Hypothesis	1.777	.201
Device * Method * Participant	Hypothesis	1.721	.161
Device * Size * Participant	Hypothesis	1.626	.164
Method * Size * Participant	Hypothesis	.884	.610
Device * Method * Size * Participant	Hypothesis	1.727	.037