

Univariate Analysis of Variance: Case $\alpha=1$

Between-Subjects Factors

N		
n	8	360
	10	360
	12	360
m1	2	540
	4	540
m2	2	540
	3	540
PROBLEM	CO_MA	360
	MA	360
	PM_MA	360

Tests of Between-Subjects Effects

Dependent Variable: TCT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1520403763.941 ^a	35	43440107.541	167.691	.000
Intercept	21179513830.459	1	21179513830.459	81759.076	.000
n	1335427246.635	2	667713623.318	2577.569	.000
m1	30930437.870	1	30930437.870	119.400	.000
m2	55074426.848	1	55074426.848	212.603	.000
PROBLEM	77354154.980	2	38677077.490	149.305	.000
n * m1	6947731.757	2	3473865.879	13.410	.000
n * m2	1826792.724	2	913396.362	3.526	.030
n * PROBLEM	11038041.126	4	2759510.281	10.653	.000
m1 * m2	270243.570	1	270243.570	1.043	.307
m1 * PROBLEM	405039.424	2	202519.712	.782	.458
m2 * PROBLEM	40995.457	2	20497.729	.079	.924
n * m1 * m2	870258.891	2	435129.445	1.680	.187
n * m1 * PROBLEM	62400.848	4	15600.212	.060	.993
n * m2 * PROBLEM	55592.937	4	13898.234	.054	.995
m1 * m2 * PROBLEM	34595.413	2	17297.706	.067	.935
n * m1 * m2 * PROBLEM	65805.459	4	16451.365	.064	.993
Error	270445967.600	1044	259047.862		
Total	22970363562.000	1080			
Corrected Total	1790849731.541	1079			

a. R Squared = .849 (Adjusted R Squared = .844)

Post Hoc Tests

n

Multiple Comparisons

Dependent Variable: TCT

Tukey HSD

(I) n	(J) n	Mean Difference		Sig.	95% Confidence Interval	
		(I-J)	Std. Error		Lower Bound	Upper Bound
8	10	-1295.18*	37.936	.000	-1384.22	-1206.15
	12	-2722.72*	37.936	.000	-2811.76	-2633.68
10	8	1295.18*	37.936	.000	1206.15	1384.22
	12	-1427.54*	37.936	.000	-1516.57	-1338.50
12	8	2722.72*	37.936	.000	2633.68	2811.76
	10	1427.54*	37.936	.000	1338.50	1516.57

Based on observed means.

The error term is Mean Square(Error) = 259047.862.

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

Homogeneous Subsets

TCT

Tukey HSD^{a,b}

n	N	Subset		
		1	2	3
8	360	3089.09		
10	360		4384.28	
12	360			5811.81
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 259047.862.

a. Uses Harmonic Mean Sample Size = 360.000.

b. Alpha = 0.05.

PROBLEM

Multiple Comparisons

Dependent Variable: TCT

Tukey HSD

(I)	(J)	Mean	Std.		95%	
PROBLEM	PROBLEM	Difference	Error	Sig.	Confidence	
		(I-J)			Interval	
					Lower	
					Bound	
CO_MA	MA	66.78	37.936	.184	-22.26	
	PM_MA	-531.38*	37.936	.000	-620.42	
MA	CO_MA	-66.78	37.936	.184	-155.82	
	PM_MA	-598.16*	37.936	.000	-687.20	
PM_MA	CO_MA	531.38*	37.936	.000	442.34	
	MA	598.16*	37.936	.000	509.12	

Homogeneous Subsets

TCT

Tukey HSD^{a,b}

PROBLEM	N	Subset	
		1	2
MA	360	4206.75	
CO_MA	360	4273.52	
PM_MA	360		4804.91
Sig.		.184	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 259047.862.

a. Uses Harmonic Mean Sample Size = 360.000.

b. Alpha = 0.05.

Univariate Analysis of Variance: Case $\alpha=2$

Between-Subjects Factors

N		
n	8	360
	10	360
	12	360
m1	2	540
	4	540
m2	2	540
	3	540
PROBLEM	CO_MA	360
	MA	360
	PM_MA	360

Tests of Between-Subjects Effects

Dependent Variable: TCT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	3688286983.958 ^a	35	105379628.113	82.467	.000
Intercept	49142761806.675	1	49142761806.675	38457.506	.000
n	3347522855.706	2	1673761427.853	1309.831	.000
m1	21115113.075	1	21115113.075	16.524	.000
m2	174941795.890	1	174941795.890	136.904	.000
PROBLEM	83164922.239	2	41582461.119	32.541	.000
n * m1	11942757.239	2	5971378.619	4.673	.010
n * m2	9187751.991	2	4593875.995	3.595	.028
n * PROBLEM	22584959.439	4	5646239.860	4.419	.002
m1 * m2	404647.245	1	404647.245	.317	.574
m1 * PROBLEM	860996.517	2	430498.258	.337	.714
m2 * PROBLEM	1261110.324	2	630555.162	.493	.611
n * m1 * m2	14480965.880	2	7240482.940	5.666	.004
n * m1 * PROBLEM	51515.794	4	12878.949	.010	1.000
n * m2 * PROBLEM	412512.354	4	103128.088	.081	.988
m1 * m2 * PROBLEM	20024.224	2	10012.112	.008	.992
n * m1 * m2 * PROBLEM	335056.043	4	83764.011	.066	.992
Error	1334071002.367	1044	1277845.788		
Total	54165119793.000	1080			
Corrected Total	5022357986.325	1079			

a. R Squared = .734 (Adjusted R Squared = .725)

Post Hoc Tests

n

Multiple Comparisons

Dependent Variable: TCT

Tukey HSD

(I) n	(J) n	Mean Difference		Sig.	95% Confidence Interval	
		(I-J)	Std. Error		Lower Bound	Upper Bound
8	10	-1980.67*	84.256	.000	-2178.42	-1782.92
	12	-4307.82*	84.256	.000	-4505.58	-4110.07
10	8	1980.67*	84.256	.000	1782.92	2178.42
	12	-2327.15*	84.256	.000	-2524.91	-2129.40
12	8	4307.82*	84.256	.000	4110.07	4505.58
	10	2327.15*	84.256	.000	2129.40	2524.91

Based on observed means.

The error term is Mean Square(Error) = 1277845.788.

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

Homogeneous Subsets

TCT

Tukey HSD^{a,b}

n	N	Subset		
		1	2	3
8	360	4649.39		
10	360		6630.06	
12	360			8957.22
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1277845.788.

a. Uses Harmonic Mean Sample Size = 360.000.

b. Alpha = 0.05.

PROBLEM

Multiple Comparisons

Dependent Variable: TCT

Tukey HSD

(I)	(J)	Mean	Std.		95%	
PROBLEM	PROBLEM	Difference	Error	Sig.	Confidence	
		(I-J)			Interval	
					Lower	
					Bound	
CO_MA	MA	669.54*	84.256	.000	471.78	
	PM_MA	233.22*	84.256	.016	35.47	
MA	CO_MA	-669.54*	84.256	.000	-867.29	
	PM_MA	-436.31*	84.256	.000	-634.07	
PM_MA	CO_MA	-233.22*	84.256	.016	-430.98	
	MA	436.31*	84.256	.000	238.56	

Homogeneous Subsets

TCT

Tukey HSD^{a,b}

PROBLEM	N	Subset		
		1	2	3
MA	360	6376.94		
PM_MA	360		6813.26	
CO_MA	360			7046.48
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1277845.788.

a. Uses Harmonic Mean Sample Size = 360.000.

b. Alpha = 0.05.

Univariate Analysis of Variance: Case $\alpha=3$

Between-Subjects Factors

N		
n	8	360
	10	360
	12	360
m1	2	540
	4	540
m2	2	540
	3	540
PROBLEM	CO_MA	360
	MA	360
	PM_MA	360

Tests of Between-Subjects Effects

Dependent Variable: TCT

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7711446174.958 ^a	35	220327033.570	69.520	.000
Intercept	94733587215.008	1	94733587215.008	29891.314	.000
n	6864957840.017	2	3432478920.008	1083.051	.000
m1	18226269.075	1	18226269.075	5.751	.017
m2	343506457.008	1	343506457.008	108.387	.000
PROBLEM	319686749.706	2	159843374.853	50.435	.000
n * m1	17928891.906	2	8964445.953	2.829	.060
n * m2	21575797.672	2	10787898.836	3.404	.034
n * PROBLEM	70305570.044	4	17576392.511	5.546	.000
m1 * m2	983011.008	1	983011.008	.310	.578
m1 * PROBLEM	1736877.217	2	868438.608	.274	.760
m2 * PROBLEM	3698874.706	2	1849437.353	.584	.558
n * m1 * m2	47532245.339	2	23766122.669	7.499	.001
n * m1 * PROBLEM	80186.644	4	20046.661	.006	1.000
n * m2 * PROBLEM	831601.789	4	207900.447	.066	.992
m1 * m2 * PROBLEM	151230.217	2	75615.108	.024	.976
n * m1 * m2 * PROBLEM	244572.611	4	61143.153	.019	.999
Error	3308715823.033	1044	3169268.030		
Total	105753749213.000	1080			
Corrected Total	11020161997.992	1079			

a. R Squared = .700 (Adjusted R Squared = .690)

Post Hoc Tests

n

Multiple Comparisons

Dependent Variable: TCT

Tukey HSD

(I) n	(J) n	Mean Difference		Sig.	95% Confidence Interval	
		(I-J)	Std. Error		Lower Bound	Upper Bound
8	10	-2799.82*	132.692	.000	-3111.26	-2488.39
	12	-6166.96*	132.692	.000	-6478.39	-5855.52
10	8	2799.83*	132.692	.000	2488.39	3111.26
	12	-3367.13*	132.692	.000	-3678.57	-3055.70
12	8	6166.96*	132.692	.000	5855.52	6478.39
	10	3367.13*	132.692	.000	3055.70	3678.57

Based on observed means.

The error term is Mean Square(Error) = 3169268.030.

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

Homogeneous Subsets

TCT

Tukey HSD^{a,b}

n	N	Subset		
		1	2	3
8	360	6376.77		
10	360		9176.59	
12	360			12543.73
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 3169268.030.

a. Uses Harmonic Mean Sample Size = 360.000.

b. Alpha = 0.05.

PROBLEM

Multiple Comparisons

Dependent Variable: TCT

Tukey HSD

(I)	(J)	Mean	Std.		95%	
PROBLEM	PROBLEM	Difference	Error	Sig.	Confidence	
		(I-J)			Interval	
					Lower	
					Bound	
CO_MA	MA	1238.15*	132.692	.000	926.72	
	PM_MA	1046.00*	132.692	.000	734.56	
MA	CO_MA	-1238.15*	132.692	.000	-1549.59	
	PM_MA	-192.16	132.692	.317	-503.59	
PM_MA	CO_MA	-1046.00*	132.692	.000	-1357.43	
	MA	192.16	132.692	.317	-119.28	

Homogeneous Subsets

TCT

Tukey HSD^{a,b}

PROBLEM	N	Subset	
		1	2
MA	360	8888.93	
PM_MA	360	9081.08	
CO_MA	360		10127.08
Sig.		.317	1.000

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 3169268.030.

a. Uses Harmonic Mean Sample Size = 360.000.

b. Alpha = 0.05.