```
GLM @15minsHR @30minsHR @45minsHR BY Caffeine
  /WSFACTOR=time 3 Polynomial
  /MEASURE=Caffeineintake
  /METHOD=SSTYPE(3)
  /POSTHOC=Caffeine(TUKEY)
  /PLOT=PROFILE(time*Caffeine) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS
=AUTO
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Caffeine*time)
  /PRINT=DESCRIPTIVE ETASQ OPOWER
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Caffeine.
```

General Linear Model

Notes

Output Created		03-APR-2021 11:05:18
Comments		
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	20
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM @15minsHR @30minsHR @45minsHR BY Caffeine /WSFACTOR=time 3 Polynomial /MEASURE=Caffeineintake /METHOD=SSTYPE(3) /POSTHOC=Caffeine (TUKEY) /PLOT=PROFILE (time*Caffeine) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Caffeine*time) /PRINT=DESCRIPTIVE ETASQ OPOWER /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Caffeine.
Resources	Processor Time	00:00:00,52
	Elapsed Time	00:00:00,55

Within-Subjects Factors

Measure: Caffeineintake

time	Dependent Variable
1	@15minsHR
2	@30minsHR
3	@45minsHR

Between-Subjects Factors

		Value Label	N
Caffeine	1	Coffee	5
	2	Tea	5
	3	Energy drinks	5
	4	Non-caffeine	5

Descriptive Statistics

	Caffeine	Mean	Std. Deviation	N
15mins (HR)	Coffee	74,80	14,096	5
	Tea	66,20	2,387	5
	Energy drinks	67,20	6,140	5
	Non-caffeine	68,40	9,099	5
	Total	69,15	8,958	20
30mins (HR)	Coffee	54,40	2,074	5
	Tea	59,60	5,550	5
	Energy drinks	57,40	3,715	5
	Non-caffeine	63,00	3,391	5
	Total	58,60	4,806	20
45mins (HR)	Coffee	88,40	28,112	5
	Tea	91,00	14,983	5
	Energy drinks	92,20	23,392	5
	Non-caffeine	92,20	17,768	5
	Total	90,95	19,946	20

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
time	Pillai's Trace	,802	30,444[b]	2,000	15,000	,000
	Wilks' Lambda	,198	30,444[b]	2,000	15,000	,000
	Hotelling's Trace	4,059	30,444[b]	2,000	15,000	,000
	Roy's Largest Root	4,059	30,444[b]	2,000	15,000	,000
time * Caffeine	Pillai's Trace	,373	1,224	6,000	32,000	,320
	Wilks' Lambda	,629	1,304[b]	6,000	30,000	,285
	Hotelling's Trace	,586	1,367	6,000	28,000	,262
	Roy's Largest Root	,579	3,089[c]	3,000	16,000	,057

Multivariate Tests[a]

Effect		Partial Eta Squared	Noncent. Parameter	Observed Power[d]
time	Pillai's Trace	,802	60,888	1,000
	Wilks' Lambda	,802	60,888	1,000
	Hotelling's Trace	,802	60,888	1,000
	Roy's Largest Root	,802	60,888	1,000
time * Caffeine	Pillai's Trace	,187	7,347	,409
	Wilks' Lambda	,207	7,826	,430
	Hotelling's Trace	,227	8,203	,444
	Roy's Largest Root	,367	9,267	,608

a. Design: Intercept + Caffeine
Within Subjects Design: time

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = ,05

Mauchly's Test of Sphericity[a]

Measure: Caffeineintake

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	,348	15,842	2	,000	,605

Mauchly's Test of Sphericity[a]

Measure: Caffeineintake

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	,751	,500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Caffeine
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: Caffeineintake

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	10887,100	2	5443,550	28,190
	Greenhouse-Geisser	10887,100	1,211	8993,850	28,190
	Huynh-Feldt	10887,100	1,502	7249,617	28,190
	Lower-bound	10887,100	1,000	10887,100	28,190
time * Caffeine	Sphericity Assumed	416,233	6	69,372	,359
	Greenhouse-Geisser	416,233	3,632	114,617	,359
	Huynh-Feldt	416,233	4,505	92,389	,359
	Lower-bound	416,233	3,000	138,744	,359
Error(time)	Sphericity Assumed	6179,333	32	193,104	
	Greenhouse-Geisser	6179,333	19,368	319,047	
	Huynh-Feldt	6179,333	24,028	257,172	
	Lower-bound	6179,333	16,000	386,208	

Tests of Within-Subjects Effects

Measure: Caffeineintake

Source		Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
time	Sphericity Assumed	,000	,638	56,379	1,000
	Greenhouse-Geisser	,000	,638	34,124	1,000
	Huynh-Feldt	,000	,638	42,334	1,000
	Lower-bound	,000	,638	28,190	,999
time * Caffeine	Sphericity Assumed	,899	,063	2,155	,135
	Greenhouse-Geisser	,818	,063	1,305	,112
	Huynh-Feldt	,855	,063	1,618	,121
	Lower-bound	,783	,063	1,078	,105
Error(time)	Sphericity Assumed				
	Greenhouse-Geisser				
	Huynh-Feldt				
	Lower-bound				

a. Computed using alpha = ,05

Tests of Within-Subjects Contrasts

Measure: Caffeineintake

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	4752,400	1	4752,400	16,847	,001
	Quadratic	6134,700	1	6134,700	58,919	,000
time * Caffeine	Linear	226,200	3	75,400	,267	,848
	Quadratic	190,033	3	63,344	,608	,619
Error(time)	Linear	4513,400	16	282,088		
	Quadratic	1665,933	16	104,121		

Tests of Within-Subjects Contrasts

Measure: Caffeineintake

Source	time	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
time	Linear	,513	16,847	,970
	Quadratic	,786	58,919	1,000
time * Caffeine	Linear	,048	,802	,090
	Quadratic	,102	1,825	,149
Error(time)	Linear			
	Quadratic			

a. Computed using alpha = ,05

Tests of Between-Subjects Effects

Measure: Caffeineintake

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	318864,600	1	318864,600	1775,992	,000	,991
Caffeine	54,067	3	18,022	,100	,959	,018
Error	2872,667	16	179,542			

Tests of Between-Subjects Effects

Measure: Caffeineintake

Transformed Variable: Average

Source	Noncent. Parameter	Observed Power[a]
Intercept	1775,992	1,000
Caffeine	,301	,064
Error		

a. Computed using alpha = ,05

Estimated Marginal Means

1. time

Estimates

Measure: Caffeineintake

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	69,150	2,015	64,878	73,422
2	58,600	,869	56,758	60,442
3	90,950	4,845	80,680	101,220

Pairwise Comparisons

Measure: Caffeineintake

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	10,550*	1,942	,000	5,360	15,740
	3	-21,800*	5,311	,002	-35,997	-7,603
2	1	-10,550*	1,942	,000	-15,740	-5,360
	3	-32,350*	5,094	,000	-45,967	-18,733
3	1	21,800*	5,311	,002	7,603	35,997
	2	32,350*	5,094	,000	18,733	45,967

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	,802	30,444[a]	2,000	15,000	,000	,802
Wilks' lambda	,198	30,444[a]	2,000	15,000	,000	,802
Hotelling's trace	4,059	30,444[a]	2,000	15,000	,000	,802
Roy's largest root	4,059	30,444[a]	2,000	15,000	,000	,802

Multivariate Tests

	Noncent. Parameter	Observed Power[b]
Pillai's trace	60,888	1,000
Wilks' lambda	60,888	1,000
Hotelling's trace	60,888	1,000
Roy's largest root	60,888	1,000

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

b. Computed using alpha = ,05

2. Caffeine * time

Measure: Caffeineintake

				95% Confidence Interval	
Caffeine	time	Mean	Std. Error	Lower Bound	Upper Bound
Coffee	1	74,800	4,031	66,256	83,344
	2	54,400	1,738	50,716	58,084
	3	88,400	9,689	67,859	108,941
Tea	1	66,200	4,031	57,656	74,744
	2	59,600	1,738	55,916	63,284
	3	91,000	9,689	70,459	111,541
Energy drinks	1	67,200	4,031	58,656	75,744
	2	57,400	1,738	53,716	61,084
	3	92,200	9,689	71,659	112,741
Non-caffeine	1	68,400	4,031	59,856	76,944
	2	63,000	1,738	59,316	66,684
	3	92,200	9,689	71,659	112,741

Post Hoc Tests

Caffeine

Multiple Comparisons

Measure: Caffeineintake

Tukey HSD

(I) Caffeine	(J) Caffeine	Mean Difference (I-J)	Std. Error	Sig.	95% ... Lower Bound
Coffee	Tea	,27	4,893	1,000	-13,73
	Energy drinks	,27	4,893	1,000	-13,73
	Non-caffeine	-2,00	4,893	,976	-16,00
Tea	Coffee	-,27	4,893	1,000	-14,26
	Energy drinks	,00	4,893	1,000	-14,00
	Non-caffeine	-2,27	4,893	,966	-16,26
Energy drinks	Coffee	-,27	4,893	1,000	-14,26
	Tea	,00	4,893	1,000	-14,00
	Non-caffeine	-2,27	4,893	,966	-16,26
Non-caffeine	Coffee	2,00	4,893	,976	-12,00
	Tea	2,27	4,893	,966	-11,73
	Energy drinks	2,27	4,893	,966	-11,73

Multiple Comparisons

Measure: Caffeineintake

Tukey HSD

(I) Caffeine	(J) Caffeine	95% Confidence . Upper Bound
Coffee	Tea	14,26
	Energy drinks	14,26
	Non-caffeine	12,00
Tea	Coffee	13,73
	Energy drinks	14,00
	Non-caffeine	11,73
Energy drinks	Coffee	13,73
	Tea	14,00
	Non-caffeine	11,73
Non-caffeine	Coffee	16,00
	Tea	16,26
	Energy drinks	16,26

Based on observed means.
The error term is Mean Square(Error) = 59,847.

Homogeneous Subsets

Caffeineintake

Tukey HSD[a,b]

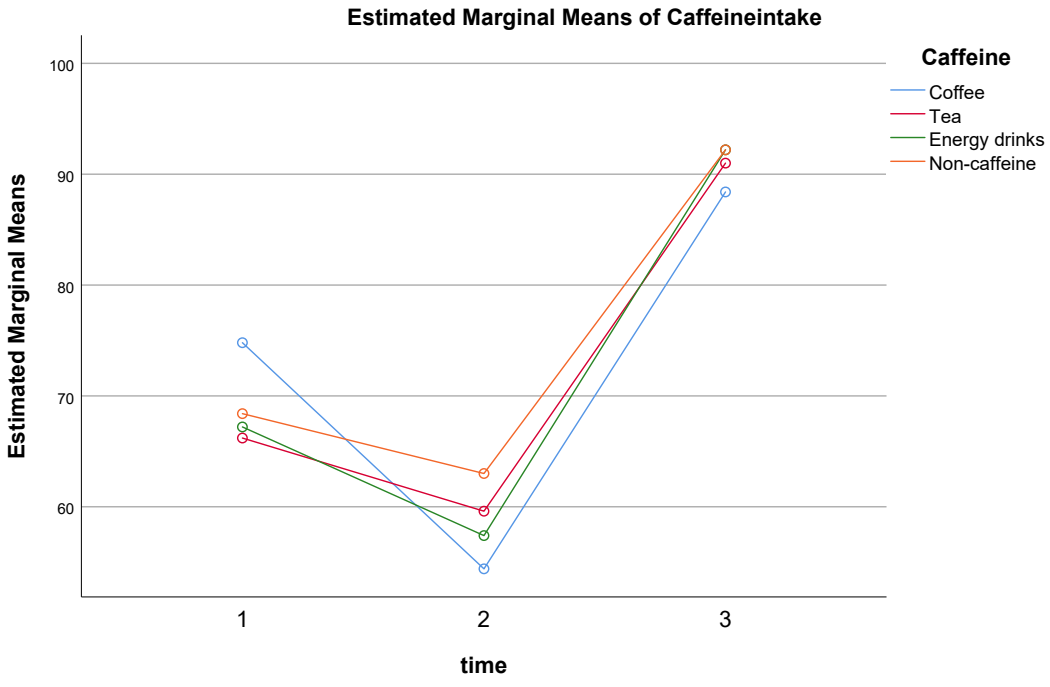
Caffeine	N	Subset 1
Tea	5	72,27
Energy drinks	5	72,27
Coffee	5	72,53
Non-caffeine	5	74,53
Sig.		,966

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 59,847.

a. Uses Harmonic Mean Sample Size = 5,000.

b. Alpha = ,05.

Profile Plots




```
GLM @0hrsbeforebedtime@3hrsbeforebedtime@6hrsbeforebedtimeBY Caffeine
 /WSFACTOR=time 3 Polynomial
 /MEASURE=Caffeineintake
 /METHOD=SSTYPE(3)
 /POSTHOC=Caffeine(TUKEY)
```

```
  /PLOT=PROFILE(time*Caffeine) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS
=AUTO
  /EMMEANS=TABLES(time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Caffeine*time)
  /PRINT=DESCRIPTIVE ETASQ OPOWER
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=time
  /DESIGN=Caffeine.
```

General Linear Model

Notes

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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.

Notes

Syntax		GLM @0hrsbeforebedtime @3hrsbeforebedtime @6hrsbeforebedtime BY Caffeine /WSFACTOR=time 3 Polynomial /MEASURE=Caffeineintake /METHOD=SSTYPE(3) /POSTHOC=Caffeine (TUKEY) /PLOT=PROFILE (time*Caffeine) TYPE=LINE ERRORBAR=NO MEANREFERENCE=NO YAXIS=AUTO /EMMEANS=TABLES (time) COMPARE ADJ (BONFERRONI) /EMMEANS=TABLES (Caffeine*time) /PRINT=DESCRIPTIVE ETASQ OPOWER /CRITERIA=ALPHA(.05) /WSDESIGN=time /DESIGN=Caffeine.
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Within-Subjects Factors

Measure: Caffeineintake

time	Dependent Variable
1	@0hrsbeforebedtime
2	@3hrsbeforebedtime
3	@6hrsbeforebedtime

Between-Subjects Factors

		Value Label	N
Caffeine	1	Coffee	5
	2	Tea	5
	3	Energy drinks	5
	4	Non-caffeine	5

Descriptive Statistics

	Caffeine	Mean	Std. Deviation	N
0hrs (before bed time)	Coffee	99,20	12,029	5
	Tea	103,40	13,465	5
	Energy drinks	104,60	11,589	5
	Non-caffeine	277,00	21,178	5
	Total	146,05	78,819	20
3hrs (before bed time)	Coffee	155,00	8,456	5
	Tea	203,40	36,150	5
	Energy drinks	168,00	50,522	5
	Non-caffeine	235,40	35,571	5
	Total	190,45	46,186	20
6hrs (before bed time)	Coffee	124,80	13,989	5
	Tea	246,20	34,223	5
	Energy drinks	180,80	44,846	5
	Non-caffeine	247,00	20,248	5
	Total	199,70	59,377	20

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
time	Pillai's Trace	,789	28,074[b]	2,000	15,000	,000
	Wilks' Lambda	,211	28,074[b]	2,000	15,000	,000
	Hotelling's Trace	3,743	28,074[b]	2,000	15,000	,000
	Roy's Largest Root	3,743	28,074[b]	2,000	15,000	,000
time * Caffeine	Pillai's Trace	1,024	5,592	6,000	32,000	,000
	Wilks' Lambda	,134	8,665[b]	6,000	30,000	,000
	Hotelling's Trace	5,293	12,350	6,000	28,000	,000
	Roy's Largest Root	5,061	26,989[c]	3,000	16,000	,000

Multivariate Tests[a]

Effect		Partial Eta Squared	Noncent. Parameter	Observed Power[d]
time	Pillai's Trace	,789	56,148	1,000
	Wilks' Lambda	,789	56,148	1,000
	Hotelling's Trace	,789	56,148	1,000
	Roy's Largest Root	,789	56,148	1,000
time * Caffeine	Pillai's Trace	,512	33,551	,989
	Wilks' Lambda	,634	51,993	1,000
	Hotelling's Trace	,726	74,103	1,000
	Roy's Largest Root	,835	80,968	1,000

a. Design: Intercept + Caffeine
Within Subjects Design: time

b. Exact statistic

c. The statistic is an upper bound on F that yields a lower bound on the significance level.

d. Computed using alpha = ,05

Mauchly's Test of Sphericity[a]

Measure: Caffeineintake

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
time	,805	3,261	2	,196	,837

Mauchly's Test of Sphericity[a]

Measure: Caffeineintake

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
time	1,000	,500

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept + Caffeine
Within Subjects Design: time

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Tests of Within-Subjects Effects

Measure: Caffeineintake

Source		Type III Sum of Squares	df	Mean Square	F
time	Sphericity Assumed	32901,633	2	16450,817	16,767
	Greenhouse-Geisser	32901,633	1,673	19665,034	16,767
	Huynh-Feldt	32901,633	2,000	16450,817	16,767
	Lower-bound	32901,633	1,000	32901,633	16,767
time * Caffeine	Sphericity Assumed	49864,500	6	8310,750	8,470
	Greenhouse-Geisser	49864,500	5,019	9934,533	8,470
	Huynh-Feldt	49864,500	6,000	8310,750	8,470
	Lower-bound	49864,500	3,000	16621,500	8,470
Error(time)	Sphericity Assumed	31397,200	32	981,163	
	Greenhouse-Geisser	31397,200	26,770	1172,865	
	Huynh-Feldt	31397,200	32,000	981,163	
	Lower-bound	31397,200	16,000	1962,325	

Tests of Within-Subjects Effects

Measure: Caffeineintake

Source		Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
time	Sphericity Assumed	,000	,512	33,533	,999
	Greenhouse-Geisser	,000	,512	28,052	,998
	Huynh-Feldt	,000	,512	33,533	,999
	Lower-bound	,001	,512	16,767	,970
time * Caffeine	Sphericity Assumed	,000	,614	50,822	1,000
	Greenhouse-Geisser	,000	,614	42,515	,999
	Huynh-Feldt	,000	,614	50,822	1,000
	Lower-bound	,001	,614	25,411	,973
Error(time)	Sphericity Assumed				
	Greenhouse-Geisser				
	Huynh-Feldt				
	Lower-bound				

a. Computed using alpha = ,05

Tests of Within-Subjects Contrasts

Measure: Caffeineintake

Source	time	Type III Sum of Squares	df	Mean Square	F	Sig.
time	Linear	28783,225	1	28783,225	40,971	,000
	Quadratic	4118,408	1	4118,408	3,269	,089
time * Caffeine	Linear	40600,875	3	13533,625	19,264	,000
	Quadratic	9263,625	3	3087,875	2,451	,101
Error(time)	Linear	11240,400	16	702,525		
	Quadratic	20156,800	16	1259,800		

Tests of Within-Subjects Contrasts

Measure: Caffeineintake

Source	time	Partial Eta Squared	Noncent. Parameter	Observed Power[a]
time	Linear	,719	40,971	1,000
	Quadratic	,170	3,269	,397
time * Caffeine	Linear	,783	57,793	1,000
	Quadratic	,315	7,353	,501
Error(time)	Linear			
	Quadratic			

a. Computed using alpha = ,05

Tests of Between-Subjects Effects

Measure: Caffeineintake

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Intercept	1916736,267	1	1916736,267	3751,502	,000	,996
Caffeine	136113,600	3	45371,200	88,802	,000	,943
Error	8174,800	16	510,925			

Tests of Between-Subjects Effects

Measure: Caffeineintake

Transformed Variable: Average

Source	Noncent. Parameter	Observed Power[a]
Intercept	3751,502	1,000
Caffeine	266,406	1,000
Error		

a. Computed using alpha = ,05

Estimated Marginal Means

1. time

Estimates

Measure: Caffeineintake

time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	146,050	3,370	138,905	153,195
2	190,450	8,059	173,365	207,535
3	199,700	6,881	185,112	214,288

Pairwise Comparisons

Measure: Caffeineintake

(I) time	(J) time	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b]	
					Lower Bound	Upper Bound
1	2	-44,400*	9,125	,001	-68,792	-20,008
	3	-53,650*	8,382	,000	-76,054	-31,246
2	1	44,400*	9,125	,001	20,008	68,792
	3	-9,250	11,867	1,000	-40,971	22,471
3	1	53,650*	8,382	,000	31,246	76,054
	2	9,250	11,867	1,000	-22,471	40,971

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	,789	28,074[a]	2,000	15,000	,000	,789
Wilks' lambda	,211	28,074[a]	2,000	15,000	,000	,789
Hotelling's trace	3,743	28,074[a]	2,000	15,000	,000	,789
Roy's largest root	3,743	28,074[a]	2,000	15,000	,000	,789

Multivariate Tests

	Noncent. Parameter	Observed Power[b]
Pillai's trace	56,148	1,000
Wilks' lambda	56,148	1,000
Hotelling's trace	56,148	1,000
Roy's largest root	56,148	1,000

Each F tests the multivariate effect of time. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

b. Computed using alpha = ,05

2. Caffeine * time

Measure: Caffeineintake

Caffeine	time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
Coffee	1	99,200	6,741	84,910	113,490
	2	155,000	16,118	120,830	189,170
	3	124,800	13,762	95,625	153,975
Tea	1	103,400	6,741	89,110	117,690
	2	203,400	16,118	169,230	237,570
	3	246,200	13,762	217,025	275,375
Energy drinks	1	104,600	6,741	90,310	118,890
	2	168,000	16,118	133,830	202,170
	3	180,800	13,762	151,625	209,975
Non-caffeine	1	277,000	6,741	262,710	291,290
	2	235,400	16,118	201,230	269,570
	3	247,000	13,762	217,825	276,175

Post Hoc Tests

Caffeine

Multiple Comparisons

Measure: Caffeineintake

Tukey HSD

(I) Caffeine	(J) Caffeine	Mean Difference (I-J)	Std. Error	Sig.	95% ...
					Lower Bound
Coffee	Tea	-58,00*	8,254	,000	-81,61
	Energy drinks	-24,80*	8,254	,038	-48,41
	Non-caffeine	-126,80*	8,254	,000	-150,41
Tea	Coffee	58,00*	8,254	,000	34,39
	Energy drinks	33,20*	8,254	,005	9,59
	Non-caffeine	-68,80*	8,254	,000	-92,41
Energy drinks	Coffee	24,80*	8,254	,038	1,19
	Tea	-33,20*	8,254	,005	-56,81
	Non-caffeine	-102,00*	8,254	,000	-125,61
Non-caffeine	Coffee	126,80*	8,254	,000	103,19
	Tea	68,80*	8,254	,000	45,19
	Energy drinks	102,00*	8,254	,000	78,39

Multiple Comparisons

Measure: Caffeineintake

Tukey HSD

(I) Caffeine	(J) Caffeine	95% Confidence . Upper Bound
Coffee	Tea	-34,39
	Energy drinks	-1,19
	Non-caffeine	-103,19
Tea	Coffee	81,61
	Energy drinks	56,81
	Non-caffeine	-45,19
Energy drinks	Coffee	48,41
	Tea	-9,59
	Non-caffeine	-78,39
Non-caffeine	Coffee	150,41
	Tea	92,41
	Energy drinks	125,61

Based on observed means.
The error term is Mean Square(Error) = 170,308.

*. The mean difference is significant at the ,05 level.

Homogeneous Subsets

Caffeineintake

Tukey HSD[a,b]

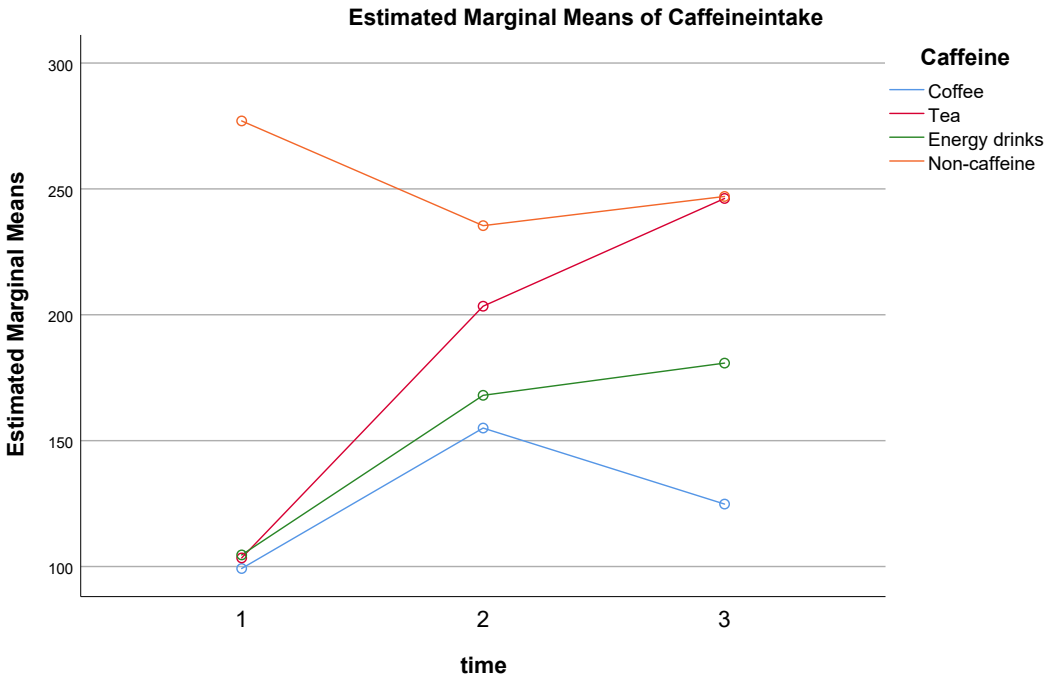
Caffeine	N	Subset 1	2	3	4
Coffee	5	126,33			
Energy drinks	5		151,13		
Tea	5			184,33	
Non-caffeine	5				253,13
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 170,308.

a. Uses Harmonic Mean Sample Size = 5,000.

b. Alpha = ,05.

Profile Plots


Estimated Marginal Means of Caffeineintake
Estimated Marginal Means
300
250
200
150
100
1
2
3
time
Caffeine
Coffee
Tea
Energy drinks
Non-caffeine