```
SAVE OUTFILE='C:\Users\iksmh\Downloads\EEG_earthquick\beta bi alpha data.sav'
  /COMPRESSED.
GLM beta_bi_alpha_pre beta_bi_alpha_during BY Task_1_Notask_0 Informed_1_noinformed_0
  /WSFACTOR=Time 2 Polynomial
  /METHOD=SSTYPE(3)
  /POSTHOC=Task_1_Notask_0 Informed_1_noinformed_0(TUKEY LSD BONFERRONI)
  /PLOT=PROFILE(Task_1_Notask_0*Informed_1_noinformed_0) TYPE=LINE ERRORBAR=NO MEANREFERE
NCE=NO
    YAXIS=AUTO
  /EMMEANS=TABLES(OVERALL)
  /EMMEANS=TABLES(Task_1_Notask_0) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Informed_1_noinformed_0) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Time) COMPARE ADJ(BONFERRONI)
  /EMMEANS=TABLES(Task_1_Notask_0*Informed_1_noinformed_0)
  /EMMEANS=TABLES(Task_1_Notask_0*Time)
  /EMMEANS=TABLES(Informed_1_noinformed_0*Time)
  /EMMEANS=TABLES(Task_1_Notask_0*Informed_1_noinformed_0*Time)
  /PRINT=DESCRIPTIVE ETASQ HOMOGENEITY
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=Time
  /DESIGN=Task_1_Notask_0 Informed_1_noinformed_0 Task_1_Notask_0*Informed_1_noinformed_0
.
```

General Linear Model

```
[DataSet3] C:\Users\iksmh\Downloads\EEG_earthquick\beta bi alpha data.sav
```

Warnings

Post hoc tests are not performed for Task_1_Notask_0 because there are fewer than three groups.
Post hoc tests are not performed for Informed_1_noinformed_0 because there are fewer than three groups.

Within-Subjects Factors

Measure: MEASURE_1

Time	Dependent Variable
1	beta_bi_alpha_pre
2	beta_bi_alpha_during

Between-Subjects Factors

		Value Label	N
Task_1_Notask_0	.00	No task	34
	1.00	task	40
Informed_1_noinformed_0	.00	not_informed	36
	1.00	Informed	38

Descriptive Statistics

	Task_1_Notask_0	Informed_1_noinformed_0	Mean	Std. Deviation
beta_bi_alpha_pre	No task	not_informed	17.2626	20.78190
		Informed	14.5143	9.68497
		Total	15.8076	15.70260
	task	not_informed	14.7706	8.67199
		Informed	12.1836	10.05087
		Total	13.4771	9.35780
	Total	not_informed	15.8781	15.08298
		Informed	13.2876	9.81645
		Total	14.5479	12.63386
beta_bi_alpha_during	No task	not_informed	6.6900	5.47158
		Informed	17.1390	11.08361
		Total	12.2218	10.24294
	task	not_informed	19.6294	19.34925
		Informed	22.9265	21.23972
		Total	21.2780	20.12371
	Total	not_informed	13.8785	16.08087
		Informed	20.1850	17.22436
		Total	17.1170	16.86496

Descriptive Statistics

	Task_1_Notask_0	Informed_1_noinformed_0	N
beta_bi_alpha_pre	No task	not_informed	16
		Informed	18
		Total	34
	task	not_informed	20
		Informed	20
		Total	40
	Total	not_informed	36
		Informed	38
		Total	74
beta_bi_alpha_during	No task	not_informed	16
		Informed	18
		Total	34
	task	not_informed	20
		Informed	20
		Total	40
	Total	not_informed	36
		Informed	38
		Total	74

Box's Test of Equality of Covariance Matrices[a]

Box's M	48.077
F	5.063
df1	9
df2	48529.783
Sig.	.000

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

a. Design: Intercept + Task_1_Notask_0 + Informed_1_noinformed_0 + Task_1_Notask_0 * Informed_1_noinformed_0
Within Subjects Design: Time

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df
Time	Pillai's Trace	.009	.604[b]	1.000	70.000
	Wilks' Lambda	.991	.604[b]	1.000	70.000
	Hotelling's Trace	.009	.604[b]	1.000	70.000
	Roy's Largest Root	.009	.604[b]	1.000	70.000
Time * Task_1_Notask_0	Pillai's Trace	.075	5.716[b]	1.000	70.000
	Wilks' Lambda	.925	5.716[b]	1.000	70.000
	Hotelling's Trace	.082	5.716[b]	1.000	70.000
	Roy's Largest Root	.082	5.716[b]	1.000	70.000
Time * Informed_1_noinformed_0	Pillai's Trace	.051	3.753[b]	1.000	70.000
	Wilks' Lambda	.949	3.753[b]	1.000	70.000
	Hotelling's Trace	.054	3.753[b]	1.000	70.000
	Roy's Largest Root	.054	3.753[b]	1.000	70.000
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Pillai's Trace	.008	.551[b]	1.000	70.000
	Wilks' Lambda	.992	.551[b]	1.000	70.000
	Hotelling's Trace	.008	.551[b]	1.000	70.000
	Roy's Largest Root	.008	.551[b]	1.000	70.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
Time	Pillai's Trace	.440	.009
	Wilks' Lambda	.440	.009
	Hotelling's Trace	.440	.009
	Roy's Largest Root	.440	.009
Time * Task_1_Notask_0	Pillai's Trace	.020	.075
	Wilks' Lambda	.020	.075
	Hotelling's Trace	.020	.075
	Roy's Largest Root	.020	.075
Time * Informed_1_noinformed_0	Pillai's Trace	.057	.051
	Wilks' Lambda	.057	.051
	Hotelling's Trace	.057	.051
	Roy's Largest Root	.057	.051
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Pillai's Trace	.460	.008
	Wilks' Lambda	.460	.008
	Hotelling's Trace	.460	.008
	Roy's Largest Root	.460	.008

a. Design: Intercept + Task_1_Notask_0 + Informed_1_noinformed_0 + Task_1_Notask_0 * Informed_1_noinformed_0
Within Subjects Design: Time

b. Exact statistic

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser
Time	1.000	.000	0	.	1.000

Mauchly's Test of Sphericity[a]

Measure: MEASURE_1

Within Subjects Effect	Epsilon[b] Huynh-Feldt	Lower-bound
Time	1.000	1.000

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

a. Design: Intercept + Task_1_Notask_0 + Informed_1_noinformed_0 + Task_1_Notask_0 * Informed_1_noinformed_0
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: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
Time	Sphericity Assumed	134.325	1	134.325	.604
	Greenhouse-Geisser	134.325	1.000	134.325	.604
	Huynh-Feldt	134.325	1.000	134.325	.604
	Lower-bound	134.325	1.000	134.325	.604
Time * Task_1_Notask_0	Sphericity Assumed	1271.662	1	1271.662	5.716
	Greenhouse-Geisser	1271.662	1.000	1271.662	5.716
	Huynh-Feldt	1271.662	1.000	1271.662	5.716
	Lower-bound	1271.662	1.000	1271.662	5.716
Time * Informed_1_noinformed_0	Sphericity Assumed	834.867	1	834.867	3.753
	Greenhouse-Geisser	834.867	1.000	834.867	3.753
	Huynh-Feldt	834.867	1.000	834.867	3.753
	Lower-bound	834.867	1.000	834.867	3.753
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Sphericity Assumed	122.635	1	122.635	.551
	Greenhouse-Geisser	122.635	1.000	122.635	.551
	Huynh-Feldt	122.635	1.000	122.635	.551
	Lower-bound	122.635	1.000	122.635	.551
Error(Time)	Sphericity Assumed	15573.479	70	222.478	
	Greenhouse-Geisser	15573.479	70.000	222.478	
	Huynh-Feldt	15573.479	70.000	222.478	
	Lower-bound	15573.479	70.000	222.478	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared
Time	Sphericity Assumed	.440	.009
	Greenhouse-Geisser	.440	.009
	Huynh-Feldt	.440	.009
	Lower-bound	.440	.009
Time * Task_1_Notask_0	Sphericity Assumed	.020	.075
	Greenhouse-Geisser	.020	.075
	Huynh-Feldt	.020	.075
	Lower-bound	.020	.075
Time * Informed_1_noinformed_0	Sphericity Assumed	.057	.051
	Greenhouse-Geisser	.057	.051
	Huynh-Feldt	.057	.051
	Lower-bound	.057	.051
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Sphericity Assumed	.460	.008
	Greenhouse-Geisser	.460	.008
	Huynh-Feldt	.460	.008
	Lower-bound	.460	.008
Error(Time)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Time	Type III Sum of Squares	df	Mean Square	F	Sig.
Time	Linear	134.325	1	134.325	.604	.440
Time * Task_1_Notask_0	Linear	1271.662	1	1271.662	5.716	.020
Time * Informed_1_noinformed_0	Linear	834.867	1	834.867	3.753	.057
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Linear	122.635	1	122.635	.551	.460
Error(Time)	Linear	15573.479	70	222.478		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Time	Partial Eta Squared
Time	Linear	.009
Time * Task_1_Notask_0	Linear	.075
Time * Informed_1_noinformed_0	Linear	.051
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Linear	.008
Error(Time)	Linear	

Levene's Test of Equality of Error Variances[a]

		Levene Statistic	df1	df2	Sig.
beta_bi_alpha_pre	Based on Mean	4.751	3	70	.005
	Based on Median	.786	3	70	.506
	Based on Median and with adjusted df	.786	3	26.167	.512
	Based on trimmed mean	3.142	3	70	.031
beta_bi_alpha_during	Based on Mean	5.063	3	70	.003
	Based on Median	2.257	3	70	.089
	Based on Median and with adjusted df	2.257	3	44.470	.095
	Based on trimmed mean	4.052	3	70	.010

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Task_1_Notask_0 + Informed_1_noinformed_0 + Task_1_Notask_0 * Informed_1_noinformed_0
Within Subjects Design: Time

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	35894.518	1	35894.518	178.580	.000
Task_1_Notask_0	443.302	1	443.302	2.205	.142
Informed_1_noinformed_0	162.215	1	162.215	.807	.372
Task_1_Notask_0 * Informed_1_noinformed_0	112.054	1	112.054	.557	.458
Error	14069.978	70	201.000		

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Partial Eta Squared
Intercept	.718
Task_1_Notask_0	.031
Informed_1_noinformed_0	.011
Task_1_Notask_0 * Informed_1_noinformed_0	.008
Error	

Estimated Marginal Means

1. Grand Mean

Measure: MEASURE_1

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
15.639	1.170	13.305	17.974

2. Task_1_Notask_0

Estimates

Measure: MEASURE_1

Task_1_Notask_0	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
No task	13.901	1.722	10.467	17.336
task	17.378	1.585	14.216	20.539

Pairwise Comparisons

Measure: MEASURE_1

(I) Task_1_Notask_0	(J) Task_1_Notask_0	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence [a]...
					Lower Bound
No task	task	-3.476	2.341	.142	-8.144
task	No task	3.476	2.341	.142	-1.192

Pairwise Comparisons

Measure: MEASURE_1

(I) Task_1_Notask_0	(J) Task_1_Notask_0	95% Confidence Interval for [a]...
		Upper Bound
No task	task	1.192
task	No task	8.144

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: MEASURE_1

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	221.651	1	221.651	2.205	.142	.031
Error	7034.989	70	100.500			

The F tests the effect of Task_1_Notask_0. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

3. Informed_1_noinformed_0

Estimates

Measure: MEASURE_1

Informed_1_noinformed_0	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
not_informed	14.588	1.681	11.235	17.941
Informed	16.691	1.629	13.443	19.939

Pairwise Comparisons

Measure: MEASURE_1

(I) Informed_1_noinformed_0	(J) Informed_1_noinformed_0	Mean Difference (I-J)	Std. Error	Sig.[a]
not_informed	Informed	-2.103	2.341	.372
Informed	not_informed	2.103	2.341	.372

Pairwise Comparisons

Measure: MEASURE_1

(I) Informed_1_noinformed_0	(J) Informed_1_noinformed_0	95% Confidence Interval for Difference[a]	
		Lower Bound	Upper Bound
not_informed	Informed	-6.771	2.566
Informed	not_informed	-2.566	6.771

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: MEASURE_1

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	81.107	1	81.107	.807	.372	.011
Error	7034.989	70	100.500			

The F tests the effect of Informed_1_noinformed_0. This test is based on the linearly independent pairwise comparisons among the estimated marginal means.

4. Time

Estimates

Measure: MEASURE_1

Time	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	14.683	1.491	11.709	17.657
2	16.596	1.884	12.840	20.353

Pairwise Comparisons

Measure: MEASURE_1

(I) Time	(J) Time	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a]	
					Lower Bound	Upper Bound
1	2	-1.913	2.463	.440	-6.825	2.998
2	1	1.913	2.463	.440	-2.998	6.825

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.009	.604[a]	1.000	70.000	.440	.009
Wilks' lambda	.991	.604[a]	1.000	70.000	.440	.009
Hotelling's trace	.009	.604[a]	1.000	70.000	.440	.009
Roy's largest root	.009	.604[a]	1.000	70.000	.440	.009

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

5. Task_1_Notask_0 * Informed_1_noinformed_0

Measure: MEASURE_1

Task_1_Notask_0	Informed_1_noinformed_0	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
No task	not_informed	11.976	2.506	6.978	16.975
	Informed	15.827	2.363	11.114	20.539
task	not_informed	17.200	2.242	12.729	21.671
	Informed	17.555	2.242	13.084	22.026

6. Task_1_Notask_0 * Time

Measure: MEASURE_1

Task_1_Notask_0	Time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
No task	1	15.888	2.194	11.512	20.265
	2	11.914	2.772	6.386	17.443
task	1	13.477	2.020	9.449	17.505
	2	21.278	2.551	16.190	26.366

7. Informed_1_noinformed_0 * Time

Measure: MEASURE_1

Informed_1_noinformed_0	Time	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
not_informed	1	16.017	2.142	11.744	20.289
	2	13.160	2.706	7.763	18.556
Informed	1	13.349	2.075	9.211	17.487
	2	20.033	2.621	14.805	25.260

8. Task_1_Notask_0 * Informed_1_noinformed_0 * Time

Measure: MEASURE_1

Task_1_Notask_0	Informed_1_noinformed_0	Time	Mean	Std. Error	95% ...
					Lower Bound
No task	not_informed	1	17.263	3.193	10.894
		2	6.690	4.034	-1.355
	Informed	1	14.514	3.011	8.510
		2	17.139	3.803	9.554
task	not_informed	1	14.771	2.856	9.074
		2	19.629	3.608	12.434
	Informed	1	12.184	2.856	6.487
		2	22.927	3.608	15.731

8. Task_1_Notask_0 * Informed_1_noinformed_0 * Time

Measure: MEASURE_1

Task_1_Notask_0	Informed_1_noinformed_0	Time	95% Confidence . Upper Bound
No task	not_informed	1	23.631
		2	14.735
	Informed	1	20.519
		2	24.724
task	not_informed	1	20.467
		2	26.825
	Informed	1	17.880
		2	30.122

Profile Plots