```
SAVE OUTFILE='C:\Users\iksmh\Downloads\EEG_earthquick\beta bi theta data.sav'
  /COMPRESSED.
GLM beta_bi_theta_pre beta_bi_theta_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 theta 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_theta _pre
2	beta_bi_theta _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_theta_pre	No task	not_informed	7.3309	8.31837
		Informed	7.7022	7.87752
		Total	7.5275	7.96590
	task	not_informed	8.0240	5.10295
		Informed	6.1371	4.05925
		Total	7.0806	4.65044
	Total	not_informed	7.7160	6.62670
		Informed	6.8785	6.13192
		Total	7.2859	6.34741
beta_bi_theta_during	No task	not_informed	3.3035	1.72496
		Informed	6.0308	4.18585
		Total	4.7473	3.50540
	task	not_informed	8.2289	7.38165
		Informed	11.5748	9.62713
		Total	9.9019	8.63533
	Total	not_informed	6.0399	6.08408
		Informed	8.9487	7.96954
		Total	7.5336	7.21678

Descriptive Statistics

	Task_1_Notask_0	Informed_1_noinformed_0	N
beta_bi_theta_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_theta_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	54.020
F	5.688
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	.000	.000[b]	1.000	70.000
	Wilks' Lambda	1.000	.000[b]	1.000	70.000
	Hotelling's Trace	.000	.000[b]	1.000	70.000
	Roy's Largest Root	.000	.000[b]	1.000	70.000
Time * Task_1_Notask_0	Pillai's Trace	.094	7.284[b]	1.000	70.000
	Wilks' Lambda	.906	7.284[b]	1.000	70.000
	Hotelling's Trace	.104	7.284[b]	1.000	70.000
	Roy's Largest Root	.104	7.284[b]	1.000	70.000
Time * Informed_1_noinformed_0	Pillai's Trace	.045	3.261[b]	1.000	70.000
	Wilks' Lambda	.955	3.261[b]	1.000	70.000
	Hotelling's Trace	.047	3.261[b]	1.000	70.000
	Roy's Largest Root	.047	3.261[b]	1.000	70.000
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Pillai's Trace	.007	.469[b]	1.000	70.000
	Wilks' Lambda	.993	.469[b]	1.000	70.000
	Hotelling's Trace	.007	.469[b]	1.000	70.000
	Roy's Largest Root	.007	.469[b]	1.000	70.000

Multivariate Tests[a]

Effect		Sig.	Partial Eta Squared
Time	Pillai's Trace	.989	.000
	Wilks' Lambda	.989	.000
	Hotelling's Trace	.989	.000
	Roy's Largest Root	.989	.000
Time * Task_1_Notask_0	Pillai's Trace	.009	.094
	Wilks' Lambda	.009	.094
	Hotelling's Trace	.009	.094
	Roy's Largest Root	.009	.094
Time * Informed_1_noinformed_0	Pillai's Trace	.075	.045
	Wilks' Lambda	.075	.045
	Hotelling's Trace	.075	.045
	Roy's Largest Root	.075	.045
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Pillai's Trace	.496	.007
	Wilks' Lambda	.496	.007
	Hotelling's Trace	.496	.007
	Roy's Largest Root	.496	.007

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	.007	1	.007	.000
	Greenhouse-Geisser	.007	1.000	.007	.000
	Huynh-Feldt	.007	1.000	.007	.000
	Lower-bound	.007	1.000	.007	.000
Time * Task_1_Notask_0	Sphericity Assumed	294.948	1	294.948	7.284
	Greenhouse-Geisser	294.948	1.000	294.948	7.284
	Huynh-Feldt	294.948	1.000	294.948	7.284
	Lower-bound	294.948	1.000	294.948	7.284
Time * Informed_1_noinformed_0	Sphericity Assumed	132.050	1	132.050	3.261
	Greenhouse-Geisser	132.050	1.000	132.050	3.261
	Huynh-Feldt	132.050	1.000	132.050	3.261
	Lower-bound	132.050	1.000	132.050	3.261
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Sphericity Assumed	18.976	1	18.976	.469
	Greenhouse-Geisser	18.976	1.000	18.976	.469
	Huynh-Feldt	18.976	1.000	18.976	.469
	Lower-bound	18.976	1.000	18.976	.469
Error(Time)	Sphericity Assumed	2834.482	70	40.493	
	Greenhouse-Geisser	2834.482	70.000	40.493	
	Huynh-Feldt	2834.482	70.000	40.493	
	Lower-bound	2834.482	70.000	40.493	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared
Time	Sphericity Assumed	.989	.000
	Greenhouse-Geisser	.989	.000
	Huynh-Feldt	.989	.000
	Lower-bound	.989	.000
Time * Task_1_Notask_0	Sphericity Assumed	.009	.094
	Greenhouse-Geisser	.009	.094
	Huynh-Feldt	.009	.094
	Lower-bound	.009	.094
Time * Informed_1_noinformed_0	Sphericity Assumed	.075	.045
	Greenhouse-Geisser	.075	.045
	Huynh-Feldt	.075	.045
	Lower-bound	.075	.045
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Sphericity Assumed	.496	.007
	Greenhouse-Geisser	.496	.007
	Huynh-Feldt	.496	.007
	Lower-bound	.496	.007
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	.007	1	.007	.000	.989
Time * Task_1_Notask_0	Linear	294.948	1	294.948	7.284	.009
Time * Informed_1_noinformed_0	Linear	132.050	1	132.050	3.261	.075
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Linear	18.976	1	18.976	.469	.496
Error(Time)	Linear	2834.482	70	40.493		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	Time	Partial Eta Squared
Time	Linear	.000
Time * Task_1_Notask_0	Linear	.094
Time * Informed_1_noinformed_0	Linear	.045
Time * Task_1_Notask_0 * Informed_1_noinformed_0	Linear	.007
Error(Time)	Linear	

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

		Levene Statistic	df1	df2	Sig.
beta_bi_theta_pre	Based on Mean	4.065	3	70	.010
	Based on Median	.774	3	70	.512
	Based on Median and with adjusted df	.774	3	40.333	.515
	Based on trimmed mean	2.984	3	70	.037
beta_bi_theta_during	Based on Mean	11.971	3	70	.000
	Based on Median	4.260	3	70	.008
	Based on Median and with adjusted df	4.260	3	44.408	.010
	Based on trimmed mean	10.315	3	70	.000

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	7802.265	1	7802.265	170.411	.000
Task_1_Notask_0	211.209	1	211.209	4.613	.035
Informed_1_noinformed_0	47.628	1	47.628	1.040	.311
Task_1_Notask_0 * Informed_1_noinformed_0	6.164	1	6.164	.135	.715
Error	3204.953	70	45.785		

Tests of Between-Subjects Effects

Measure: MEASURE_1

Transformed Variable: Average

Source	Partial Eta Squared
Intercept	.709
Task_1_Notask_0	.062
Informed_1_noinformed_0	.015
Task_1_Notask_0 * Informed_1_noinformed_0	.002
Error	

Estimated Marginal Means

1. Grand Mean

Measure: MEASURE_1

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
7.292	.559	6.178	8.406

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	6.092	.822	4.452	7.731
task	8.491	.757	6.982	10.000

Pairwise Comparisons

Measure: MEASURE_1

(I) Task_1_Notask_0	(J) Task_1_Notask_0	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence [b]... Lower Bound
No task	task	-2.399[*]	1.117	.035	-4.627
task	No task	2.399[*]	1.117	.035	.171

Pairwise Comparisons

Measure: MEASURE_1

(I) Task_1_Notask_0	(J) Task_1_Notask_0	95% Confidence Interval for [b]... Upper Bound
No task	task	-.171
task	No task	4.627

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests

Measure: MEASURE_1

	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Contrast	105.604	1	105.604	4.613	.035	.062
Error	1602.477	70	22.893			

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	6.722	.802	5.122	8.322
Informed	7.861	.777	6.311	9.411

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	-1.139	1.117	.311
Informed	not_informed	1.139	1.117	.311

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	-3.367	1.089
Informed	not_informed	-1.089	3.367

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	23.814	1	23.814	1.040	.311	.015
Error	1602.477	70	22.893			

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	7.299	.751	5.800	8.797
2	7.284	.782	5.725	8.844

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	.014	1.051	.989	-2.081	2.109
2	1	-.014	1.051	.989	-2.109	2.081

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	.000	.000[a]	1.000	70.000	.989	.000
Wilks' lambda	1.000	.000[a]	1.000	70.000	.989	.000
Hotelling's trace	.000	.000[a]	1.000	70.000	.989	.000
Roy's largest root	.000	.000[a]	1.000	70.000	.989	.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

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	5.317	1.196	2.932	7.703
	Informed	6.866	1.128	4.617	9.116
task	not_informed	8.126	1.070	5.993	10.260
	Informed	8.856	1.070	6.722	10.990

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	7.517	1.106	5.311	9.722
	2	4.667	1.150	2.373	6.961
task	1	7.081	1.018	5.051	9.111
	2	9.902	1.059	7.790	12.013

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	7.677	1.080	5.524	9.831
	2	5.766	1.123	3.526	8.006
Informed	1	6.920	1.046	4.834	9.005
	2	8.803	1.088	6.633	10.972

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	7.331	1.609	4.121
		2	3.304	1.674	-.035
	Informed	1	7.702	1.517	4.676
		2	6.031	1.578	2.883
task	not_informed	1	8.024	1.439	5.153
		2	8.229	1.497	5.243
	Informed	1	6.137	1.439	3.266
		2	11.575	1.497	8.588

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	10.541
		2	6.642
	Informed	1	10.728
		2	9.179
task	not_informed	1	10.895
		2	11.215
	Informed	1	9.008
		2	14.561

Profile Plots

Estimated Marginal Means of MEASURE_1