**Appendix Y: Experiment 2: ANOVA Objective Data**

GLM FP1\_LCLF\_Initial FP1\_LCLF1\_Ref FP1\_MCMF1\_Initial FP1\_MCMF1\_Ref FP1\_HCHF1\_Initial FP1\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 08:25:07 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM FP1\_LCLF\_Initial FP1\_LCLF1\_Ref FP1\_MCMF1\_Initial FP1\_MCMF1\_Ref FP1\_HCHF1\_Initial FP1\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.22 |
| Elapsed Time | 00:00:00.24 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | FP1\_LCLF\_Initial |
| 2 | FP1\_LCLF1\_Ref |
| 2 | 1 | FP1\_MCMF1\_Initial |
| 2 | FP1\_MCMF1\_Ref |
| 3 | 1 | FP1\_HCHF1\_Initial |
| 2 | FP1\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| FP1\_LCLF\_Initial | 8.5644 | 4.93570 | 87 |
| FP1\_LCLF1\_Ref | 8.1092 | 3.85009 | 87 |
| FP1\_MCMF1\_Initial | 8.0425 | 4.88930 | 87 |
| FP1\_MCMF1\_Ref | 9.6011 | 5.94004 | 87 |
| FP1\_HCHF1\_Initial | 7.9172 | 4.56478 | 87 |
| FP1\_HCHF1\_Ref | 8.7931 | 4.87711 | 87 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .027 | 1.168b | 2.000 | 85.000 |  |  |  |  |
| Wilks' Lambda | .973 | 1.168b | 2.000 | 85.000 |  |  |  |  |
| Hotelling's Trace | .027 | 1.168b | 2.000 | 85.000 |  |  |  |  |
| Roy's Largest Root | .027 | 1.168b | 2.000 | 85.000 |  |  |  |  |
| Timing | Pillai's Trace | .064 | 5.911b | 1.000 | 86.000 |  |  |  |  |
| Wilks' Lambda | .936 | 5.911b | 1.000 | 86.000 |  |  |  |  |
| Hotelling's Trace | .069 | 5.911b | 1.000 | 86.000 |  |  |  |  |
| Roy's Largest Root | .069 | 5.911b | 1.000 | 86.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .117 | 5.646b | 2.000 | 85.000 |  |  |  |  |
| Wilks' Lambda | .883 | 5.646b | 2.000 | 85.000 |  |  |  |  |
| Hotelling's Trace | .133 | 5.646b | 2.000 | 85.000 |  |  |  |  |
| Roy's Largest Root | .133 | 5.646b | 2.000 | 85.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .993 | .559 | 2 | .756 | .993 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .940 | 5.300 | 2 | .071 | .943 |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 26.297 | 2 | 13.149 |  |  |  |  |  |
| Greenhouse-Geisser | 26.297 | 1.987 | 13.235 |  |  |  |  |  |
| Huynh-Feldt | 26.297 | 2.000 | 13.149 |  |  |  |  |  |
| Lower-bound | 26.297 | 1.000 | 26.297 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 1977.790 | 172 | 11.499 |  |  |  |  |  |
| Greenhouse-Geisser | 1977.790 | 170.879 | 11.574 |  |  |  |  |  |
| Huynh-Feldt | 1977.790 | 172.000 | 11.499 |  |  |  |  |  |
| Lower-bound | 1977.790 | 86.000 | 22.998 |  |  |  |  |  |
| Timing | Sphericity Assumed | 56.806 | 1 | 56.806 |  |  |  |  |  |
| Greenhouse-Geisser | 56.806 | 1.000 | 56.806 |  |  |  |  |  |
| Huynh-Feldt | 56.806 | 1.000 | 56.806 |  |  |  |  |  |
| Lower-bound | 56.806 | 1.000 | 56.806 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 826.414 | 86 | 9.609 |  |  |  |  |  |
| Greenhouse-Geisser | 826.414 | 86.000 | 9.609 |  |  |  |  |  |
| Huynh-Feldt | 826.414 | 86.000 | 9.609 |  |  |  |  |  |
| Lower-bound | 826.414 | 86.000 | 9.609 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 91.251 | 2 | 45.626 |  |  |  |  |  |
| Greenhouse-Geisser | 91.251 | 1.886 | 48.384 |  |  |  |  |  |
| Huynh-Feldt | 91.251 | 1.927 | 47.356 |  |  |  |  |  |
| Lower-bound | 91.251 | 1.000 | 91.251 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 1563.609 | 172 | 9.091 |  |  |  |  |  |
| Greenhouse-Geisser | 1563.609 | 162.195 | 9.640 |  |  |  |  |  |
| Huynh-Feldt | 1563.609 | 165.715 | 9.436 |  |  |  |  |  |
| Lower-bound | 1563.609 | 86.000 | 18.181 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | .029 | 1 | .029 |  |  |  |  |  |
| Quadratic |  | 26.268 | 1 | 26.268 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 1010.461 | 86 | 11.750 |  |  |  |  |  |
| Quadratic |  | 967.329 | 86 | 11.248 |  |  |  |  |  |
| Timing |  | Linear | 56.806 | 1 | 56.806 |  |  |  |  |  |
| Error(Timing) |  | Linear | 826.414 | 86 | 9.609 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 38.533 | 1 | 38.533 |  |  |  |  |  |
| Quadratic | Linear | 52.718 | 1 | 52.718 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 608.067 | 86 | 7.071 |  |  |  |  |  |
| Quadratic | Linear | 955.542 | 86 | 11.111 |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 37755.311 | 1 | 37755.311 | 409.455 | .000 | .826 |  |  |
| Error | 7929.942 | 86 | 92.209 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| FP1\_LCLF\_Initial | Intercept | 8.564 | .529 | 16.185 | .000 | 7.512 |  |  |  |  |
| FP1\_LCLF1\_Ref | Intercept | 8.109 | .413 | 19.646 | .000 | 7.289 |  |  |  |  |
| FP1\_MCMF1\_Initial | Intercept | 8.043 | .524 | 15.343 | .000 | 7.000 |  |  |  |  |
| FP1\_MCMF1\_Ref | Intercept | 9.601 | .637 | 15.076 | .000 | 8.335 |  |  |  |  |
| FP1\_HCHF1\_Initial | Intercept | 7.917 | .489 | 16.178 | .000 | 6.944 |  |  |  |  |
| FP1\_HCHF1\_Ref | Intercept | 8.793 | .523 | 16.817 | .000 | 7.754 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 8.505 | .420 | 7.669 | 9.340 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 8.175 | .429 | 7.322 | 9.028 |
| 2 | 8.834 | .454 | 7.932 | 9.737 |

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| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.660\* | .271 | .017 | -1.199 | -.120 |
| 2 | 1 | .660\* | .271 | .017 | .120 | 1.199 |

|  |
| --- |
| 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 | .064 | 5.911a | 1.000 | 86.000 | .017 | .064 |  |  |
| Wilks' lambda | .936 | 5.911a | 1.000 | 86.000 | .017 | .064 |  |  |
| Hotelling's trace | .069 | 5.911a | 1.000 | 86.000 | .017 | .064 |  |  |
| Roy's largest root | .069 | 5.911a | 1.000 | 86.000 | .017 | .064 |  |  |

**3. Comp\_Flu**

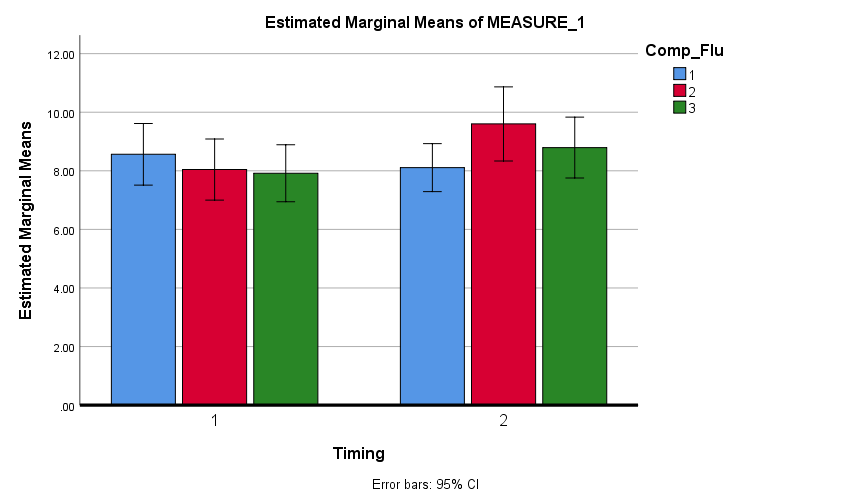
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 8.337 | .425 | 7.492 | 9.182 |
| 2 | 8.822 | .526 | 7.776 | 9.867 |
| 3 | 8.355 | .453 | 7.455 | 9.255 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | -.485 | .349 | .504 | -1.337 |  |
| 3 | -.018 | .367 | 1.000 | -.916 |  |
| 2 | 1 | .485 | .349 | .504 | -.367 |  |
| 3 | .467 | .374 | .645 | -.446 |  |
| 3 | 1 | .018 | .367 | 1.000 | -.879 |  |
| 2 | -.467 | .374 | .645 | -1.379 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .027 | 1.168a | 2.000 | 85.000 | .316 | .027 |  |  |
| Wilks' lambda | .973 | 1.168a | 2.000 | 85.000 | .316 | .027 |  |  |
| Hotelling's trace | .027 | 1.168a | 2.000 | 85.000 | .316 | .027 |  |  |
| Roy's largest root | .027 | 1.168a | 2.000 | 85.000 | .316 | .027 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 8.564 | .529 | 7.512 | 9.616 |
| 2 | 8.043 | .524 | 7.000 | 9.085 |
| 3 | 7.917 | .489 | 6.944 | 8.890 |
| 2 | 1 | 8.109 | .413 | 7.289 | 8.930 |
| 2 | 9.601 | .637 | 8.335 | 10.867 |
| 3 | 8.793 | .523 | 7.754 | 9.833 |

**Profile Plots**



GLM FP2\_LCLF1\_Initial FP2\_LCLF1\_Ref FP2\_MCMF1\_Initial FP2\_MCMF1\_Ref FP2\_HCHF1\_Initial FP2\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 08:28:34 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM FP2\_LCLF1\_Initial FP2\_LCLF1\_Ref FP2\_MCMF1\_Initial FP2\_MCMF1\_Ref FP2\_HCHF1\_Initial FP2\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.19 |
| Elapsed Time | 00:00:00.20 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | FP2\_LCLF1\_Initial |
| 2 | FP2\_LCLF1\_Ref |
| 2 | 1 | FP2\_MCMF1\_Initial |
| 2 | FP2\_MCMF1\_Ref |
| 3 | 1 | FP2\_HCHF1\_Initial |
| 2 | FP2\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| FP2\_LCLF1\_Initial | 8.0667 | 3.64975 | 90 |
| FP2\_LCLF1\_Ref | 8.5744 | 3.82013 | 90 |
| FP2\_MCMF1\_Initial | 8.4133 | 4.37283 | 90 |
| FP2\_MCMF1\_Ref | 9.5022 | 4.83136 | 90 |
| FP2\_HCHF1\_Initial | 7.8856 | 3.66531 | 90 |
| FP2\_HCHF1\_Ref | 8.8933 | 4.35977 | 90 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .052 | 2.393b | 2.000 | 88.000 |  |  |  |  |
| Wilks' Lambda | .948 | 2.393b | 2.000 | 88.000 |  |  |  |  |
| Hotelling's Trace | .054 | 2.393b | 2.000 | 88.000 |  |  |  |  |
| Roy's Largest Root | .054 | 2.393b | 2.000 | 88.000 |  |  |  |  |
| Timing | Pillai's Trace | .117 | 11.802b | 1.000 | 89.000 |  |  |  |  |
| Wilks' Lambda | .883 | 11.802b | 1.000 | 89.000 |  |  |  |  |
| Hotelling's Trace | .133 | 11.802b | 1.000 | 89.000 |  |  |  |  |
| Roy's Largest Root | .133 | 11.802b | 1.000 | 89.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .022 | .982b | 2.000 | 88.000 |  |  |  |  |
| Wilks' Lambda | .978 | .982b | 2.000 | 88.000 |  |  |  |  |
| Hotelling's Trace | .022 | .982b | 2.000 | 88.000 |  |  |  |  |
| Roy's Largest Root | .022 | .982b | 2.000 | 88.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .994 | .519 | 2 | .771 | .994 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .950 | 4.543 | 2 | .103 | .952 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 44.028 | 2 | 22.014 |  |  |  |  |  |
| Greenhouse-Geisser | 44.028 | 1.988 | 22.144 |  |  |  |  |  |
| Huynh-Feldt | 44.028 | 2.000 | 22.014 |  |  |  |  |  |
| Lower-bound | 44.028 | 1.000 | 44.028 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 1506.385 | 178 | 8.463 |  |  |  |  |  |
| Greenhouse-Geisser | 1506.385 | 176.958 | 8.513 |  |  |  |  |  |
| Huynh-Feldt | 1506.385 | 178.000 | 8.463 |  |  |  |  |  |
| Lower-bound | 1506.385 | 89.000 | 16.926 |  |  |  |  |  |
| Timing | Sphericity Assumed | 101.747 | 1 | 101.747 |  |  |  |  |  |
| Greenhouse-Geisser | 101.747 | 1.000 | 101.747 |  |  |  |  |  |
| Huynh-Feldt | 101.747 | 1.000 | 101.747 |  |  |  |  |  |
| Lower-bound | 101.747 | 1.000 | 101.747 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 767.310 | 89 | 8.621 |  |  |  |  |  |
| Greenhouse-Geisser | 767.310 | 89.000 | 8.621 |  |  |  |  |  |
| Huynh-Feldt | 767.310 | 89.000 | 8.621 |  |  |  |  |  |
| Lower-bound | 767.310 | 89.000 | 8.621 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 8.914 | 2 | 4.457 |  |  |  |  |  |
| Greenhouse-Geisser | 8.914 | 1.904 | 4.681 |  |  |  |  |  |
| Huynh-Feldt | 8.914 | 1.945 | 4.584 |  |  |  |  |  |
| Lower-bound | 8.914 | 1.000 | 8.914 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 993.859 | 178 | 5.583 |  |  |  |  |  |
| Greenhouse-Geisser | 993.859 | 169.473 | 5.864 |  |  |  |  |  |
| Huynh-Feldt | 993.859 | 173.080 | 5.742 |  |  |  |  |  |
| Lower-bound | 993.859 | 89.000 | 11.167 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | .427 | 1 | .427 |  |  |  |  |  |
| Quadratic |  | 43.601 | 1 | 43.601 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 695.408 | 89 | 7.814 |  |  |  |  |  |
| Quadratic |  | 810.977 | 89 | 9.112 |  |  |  |  |  |
| Timing |  | Linear | 101.747 | 1 | 101.747 |  |  |  |  |  |
| Error(Timing) |  | Linear | 767.310 | 89 | 8.621 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 5.625 | 1 | 5.625 |  |  |  |  |  |
| Quadratic | Linear | 3.289 | 1 | 3.289 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 410.140 | 89 | 4.608 |  |  |  |  |  |
| Quadratic | Linear | 583.719 | 89 | 6.559 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 39530.089 | 1 | 39530.089 | 597.983 | .000 | .870 |  |  |
| Error | 5883.408 | 89 | 66.106 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| FP2\_LCLF1\_Initial | Intercept | 8.067 | .385 | 20.968 | .000 | 7.302 |  |  |  |  |
| FP2\_LCLF1\_Ref | Intercept | 8.574 | .403 | 21.294 | .000 | 7.774 |  |  |  |  |
| FP2\_MCMF1\_Initial | Intercept | 8.413 | .461 | 18.253 | .000 | 7.497 |  |  |  |  |
| FP2\_MCMF1\_Ref | Intercept | 9.502 | .509 | 18.659 | .000 | 8.490 |  |  |  |  |
| FP2\_HCHF1\_Initial | Intercept | 7.886 | .386 | 20.410 | .000 | 7.118 |  |  |  |  |
| FP2\_HCHF1\_Ref | Intercept | 8.893 | .460 | 19.352 | .000 | 7.980 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 8.556 | .350 | 7.861 | 9.251 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 8.122 | .349 | 7.429 | 8.814 |
| 2 | 8.990 | .394 | 8.207 | 9.773 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.868\* | .253 | .001 | -1.370 | -.366 |
| 2 | 1 | .868\* | .253 | .001 | .366 | 1.370 |

|  |
| --- |
| 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 | .117 | 11.802a | 1.000 | 89.000 | .001 | .117 |  |  |
| Wilks' lambda | .883 | 11.802a | 1.000 | 89.000 | .001 | .117 |  |  |
| Hotelling's trace | .133 | 11.802a | 1.000 | 89.000 | .001 | .117 |  |  |
| Roy's largest root | .133 | 11.802a | 1.000 | 89.000 | .001 | .117 |  |  |

**3. Comp\_Flu**

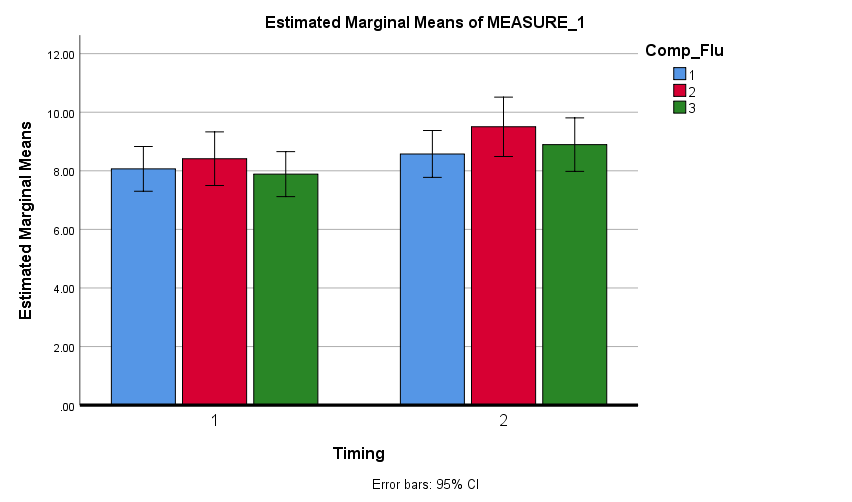
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 8.321 | .357 | 7.612 | 9.029 |
| 2 | 8.958 | .438 | 8.087 | 9.828 |
| 3 | 8.389 | .377 | 7.640 | 9.139 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | -.637 | .312 | .133 | -1.400 |  |
| 3 | -.069 | .295 | 1.000 | -.788 |  |
| 2 | 1 | .637 | .312 | .133 | -.125 |  |
| 3 | .568 | .312 | .217 | -.194 |  |
| 3 | 1 | .069 | .295 | 1.000 | -.650 |  |
| 2 | -.568 | .312 | .217 | -1.331 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .052 | 2.393a | 2.000 | 88.000 | .097 | .052 |  |  |
| Wilks' lambda | .948 | 2.393a | 2.000 | 88.000 | .097 | .052 |  |  |
| Hotelling's trace | .054 | 2.393a | 2.000 | 88.000 | .097 | .052 |  |  |
| Roy's largest root | .054 | 2.393a | 2.000 | 88.000 | .097 | .052 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 8.067 | .385 | 7.302 | 8.831 |
| 2 | 8.413 | .461 | 7.497 | 9.329 |
| 3 | 7.886 | .386 | 7.118 | 8.653 |
| 2 | 1 | 8.574 | .403 | 7.774 | 9.375 |
| 2 | 9.502 | .509 | 8.490 | 10.514 |
| 3 | 8.893 | .460 | 7.980 | 9.806 |

**Profile Plots**



GLM F7\_LCLF1\_Initial F7\_LCLF1\_Ref F7\_MCMF1\_Initial F7\_MCMF1\_Ref F7\_HCHF1\_Initial F7\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 08:35:55 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM F7\_LCLF1\_Initial F7\_LCLF1\_Ref F7\_MCMF1\_Initial F7\_MCMF1\_Ref F7\_HCHF1\_Initial F7\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.20 |
| Elapsed Time | 00:00:00.20 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | F7\_LCLF1\_Initial |
| 2 | F7\_LCLF1\_Ref |
| 2 | 1 | F7\_MCMF1\_Initial |
| 2 | F7\_MCMF1\_Ref |
| 3 | 1 | F7\_HCHF1\_Initial |
| 2 | F7\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| F7\_LCLF1\_Initial | 5.9588 | 2.33697 | 97 |
| F7\_LCLF1\_Ref | 6.0443 | 2.70647 | 97 |
| F7\_MCMF1\_Initial | 6.0021 | 2.67091 | 97 |
| F7\_MCMF1\_Ref | 6.2443 | 2.71953 | 97 |
| F7\_HCHF1\_Initial | 5.7062 | 2.47200 | 97 |
| F7\_HCHF1\_Ref | 5.7856 | 2.53956 | 97 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .053 | 2.635b | 2.000 | 95.000 |  |  |  |  |
| Wilks' Lambda | .947 | 2.635b | 2.000 | 95.000 |  |  |  |  |
| Hotelling's Trace | .055 | 2.635b | 2.000 | 95.000 |  |  |  |  |
| Roy's Largest Root | .055 | 2.635b | 2.000 | 95.000 |  |  |  |  |
| Timing | Pillai's Trace | .008 | .812b | 1.000 | 96.000 |  |  |  |  |
| Wilks' Lambda | .992 | .812b | 1.000 | 96.000 |  |  |  |  |
| Hotelling's Trace | .008 | .812b | 1.000 | 96.000 |  |  |  |  |
| Roy's Largest Root | .008 | .812b | 1.000 | 96.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .005 | .231b | 2.000 | 95.000 |  |  |  |  |
| Wilks' Lambda | .995 | .231b | 2.000 | 95.000 |  |  |  |  |
| Hotelling's Trace | .005 | .231b | 2.000 | 95.000 |  |  |  |  |
| Roy's Largest Root | .005 | .231b | 2.000 | 95.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .994 | .616 | 2 | .735 | .994 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .998 | .176 | 2 | .916 | .998 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 14.391 | 2 | 7.195 |  |  |  |  |  |
| Greenhouse-Geisser | 14.391 | 1.987 | 7.242 |  |  |  |  |  |
| Huynh-Feldt | 14.391 | 2.000 | 7.195 |  |  |  |  |  |
| Lower-bound | 14.391 | 1.000 | 14.391 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 481.299 | 192 | 2.507 |  |  |  |  |  |
| Greenhouse-Geisser | 481.299 | 190.768 | 2.523 |  |  |  |  |  |
| Huynh-Feldt | 481.299 | 192.000 | 2.507 |  |  |  |  |  |
| Lower-bound | 481.299 | 96.000 | 5.014 |  |  |  |  |  |
| Timing | Sphericity Assumed | 2.681 | 1 | 2.681 |  |  |  |  |  |
| Greenhouse-Geisser | 2.681 | 1.000 | 2.681 |  |  |  |  |  |
| Huynh-Feldt | 2.681 | 1.000 | 2.681 |  |  |  |  |  |
| Lower-bound | 2.681 | 1.000 | 2.681 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 316.774 | 96 | 3.300 |  |  |  |  |  |
| Greenhouse-Geisser | 316.774 | 96.000 | 3.300 |  |  |  |  |  |
| Huynh-Feldt | 316.774 | 96.000 | 3.300 |  |  |  |  |  |
| Lower-bound | 316.774 | 96.000 | 3.300 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | .827 | 2 | .413 |  |  |  |  |  |
| Greenhouse-Geisser | .827 | 1.996 | .414 |  |  |  |  |  |
| Huynh-Feldt | .827 | 2.000 | .413 |  |  |  |  |  |
| Lower-bound | .827 | 1.000 | .827 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 345.823 | 192 | 1.801 |  |  |  |  |  |
| Greenhouse-Geisser | 345.823 | 191.645 | 1.804 |  |  |  |  |  |
| Huynh-Feldt | 345.823 | 192.000 | 1.801 |  |  |  |  |  |
| Lower-bound | 345.823 | 96.000 | 3.602 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 6.341 | 1 | 6.341 |  |  |  |  |  |
| Quadratic |  | 8.050 | 1 | 8.050 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 242.849 | 96 | 2.530 |  |  |  |  |  |
| Quadratic |  | 238.450 | 96 | 2.484 |  |  |  |  |  |
| Timing |  | Linear | 2.681 | 1 | 2.681 |  |  |  |  |  |
| Error(Timing) |  | Linear | 316.774 | 96 | 3.300 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | .001 | 1 | .001 |  |  |  |  |  |
| Quadratic | Linear | .826 | 1 | .826 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 175.399 | 96 | 1.827 |  |  |  |  |  |
| Quadratic | Linear | 170.424 | 96 | 1.775 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 20651.882 | 1 | 20651.882 | 738.608 | .000 | .885 |  |  |
| Error | 2684.213 | 96 | 27.961 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| F7\_LCLF1\_Initial | Intercept | 5.959 | .237 | 25.112 | .000 | 5.488 |  |  |  |  |
| F7\_LCLF1\_Ref | Intercept | 6.044 | .275 | 21.995 | .000 | 5.499 |  |  |  |  |
| F7\_MCMF1\_Initial | Intercept | 6.002 | .271 | 22.132 | .000 | 5.464 |  |  |  |  |
| F7\_MCMF1\_Ref | Intercept | 6.244 | .276 | 22.614 | .000 | 5.696 |  |  |  |  |
| F7\_HCHF1\_Initial | Intercept | 5.706 | .251 | 22.734 | .000 | 5.208 |  |  |  |  |
| F7\_HCHF1\_Ref | Intercept | 5.786 | .258 | 22.437 | .000 | 5.274 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 5.957 | .219 | 5.522 | 6.392 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 5.889 | .222 | 5.449 | 6.329 |
| 2 | 6.025 | .242 | 5.545 | 6.504 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.136 | .151 | .370 | -.435 | .163 |
| 2 | 1 | .136 | .151 | .370 | -.163 | .435 |

|  |
| --- |
| 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 | .008 | .812a | 1.000 | 96.000 | .370 | .008 |  |  |
| Wilks' lambda | .992 | .812a | 1.000 | 96.000 | .370 | .008 |  |  |
| Hotelling's trace | .008 | .812a | 1.000 | 96.000 | .370 | .008 |  |  |
| Roy's largest root | .008 | .812a | 1.000 | 96.000 | .370 | .008 |  |  |

**3. Comp\_Flu**

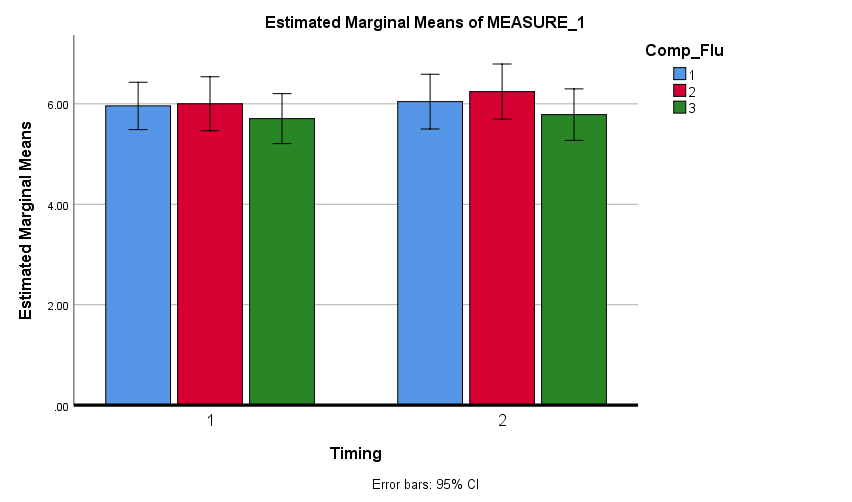
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.002 | .231 | 5.544 | 6.459 |
| 2 | 6.123 | .255 | 5.618 | 6.629 |
| 3 | 5.746 | .228 | 5.293 | 6.198 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | -.122 | .155 | 1.000 | -.499 |  |
| 3 | .256 | .161 | .350 | -.138 |  |
| 2 | 1 | .122 | .155 | 1.000 | -.255 |  |
| 3 | .377 | .166 | .075 | -.027 |  |
| 3 | 1 | -.256 | .161 | .350 | -.649 |  |
| 2 | -.377 | .166 | .075 | -.781 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .053 | 2.635a | 2.000 | 95.000 | .077 | .053 |  |  |
| Wilks' lambda | .947 | 2.635a | 2.000 | 95.000 | .077 | .053 |  |  |
| Hotelling's trace | .055 | 2.635a | 2.000 | 95.000 | .077 | .053 |  |  |
| Roy's largest root | .055 | 2.635a | 2.000 | 95.000 | .077 | .053 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 5.959 | .237 | 5.488 | 6.430 |
| 2 | 6.002 | .271 | 5.464 | 6.540 |
| 3 | 5.706 | .251 | 5.208 | 6.204 |
| 2 | 1 | 6.044 | .275 | 5.499 | 6.590 |
| 2 | 6.244 | .276 | 5.696 | 6.792 |
| 3 | 5.786 | .258 | 5.274 | 6.297 |

**Profile Plots**



GLM F3\_LCLF1\_Initial F3\_LCLF1\_Ref F3\_MCMF1\_Initial F3\_MCMF1\_Ref F3\_HCHF1\_Initial F3\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 08:40:23 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM F3\_LCLF1\_Initial F3\_LCLF1\_Ref F3\_MCMF1\_Initial F3\_MCMF1\_Ref F3\_HCHF1\_Initial F3\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.20 |
| Elapsed Time | 00:00:00.21 |

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| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | F3\_LCLF1\_Initial |
| 2 | F3\_LCLF1\_Ref |
| 2 | 1 | F3\_MCMF1\_Initial |
| 2 | F3\_MCMF1\_Ref |
| 3 | 1 | F3\_HCHF1\_Initial |
| 2 | F3\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| F3\_LCLF1\_Initial | 5.7681 | 2.36549 | 94 |
| F3\_LCLF1\_Ref | 6.5532 | 3.30421 | 94 |
| F3\_MCMF1\_Initial | 5.6787 | 2.71974 | 94 |
| F3\_MCMF1\_Ref | 6.6043 | 3.41571 | 94 |
| F3\_HCHF1\_Initial | 5.8160 | 2.91914 | 94 |
| F3\_HCHF1\_Ref | 6.6266 | 3.80973 | 94 |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .002 | .079b | 2.000 | 92.000 |  |  |  |  |
| Wilks' Lambda | .998 | .079b | 2.000 | 92.000 |  |  |  |  |
| Hotelling's Trace | .002 | .079b | 2.000 | 92.000 |  |  |  |  |
| Roy's Largest Root | .002 | .079b | 2.000 | 92.000 |  |  |  |  |
| Timing | Pillai's Trace | .180 | 20.472b | 1.000 | 93.000 |  |  |  |  |
| Wilks' Lambda | .820 | 20.472b | 1.000 | 93.000 |  |  |  |  |
| Hotelling's Trace | .220 | 20.472b | 1.000 | 93.000 |  |  |  |  |
| Roy's Largest Root | .220 | 20.472b | 1.000 | 93.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .002 | .108b | 2.000 | 92.000 |  |  |  |  |
| Wilks' Lambda | .998 | .108b | 2.000 | 92.000 |  |  |  |  |
| Hotelling's Trace | .002 | .108b | 2.000 | 92.000 |  |  |  |  |
| Roy's Largest Root | .002 | .108b | 2.000 | 92.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .927 | 6.970 | 2 | .031 | .932 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .943 | 5.417 | 2 | .067 | .946 |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | .652 | 2 | .326 |  |  |  |  |  |
| Greenhouse-Geisser | .652 | 1.864 | .350 |  |  |  |  |  |
| Huynh-Feldt | .652 | 1.901 | .343 |  |  |  |  |  |
| Lower-bound | .652 | 1.000 | .652 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 641.278 | 186 | 3.448 |  |  |  |  |  |
| Greenhouse-Geisser | 641.278 | 173.352 | 3.699 |  |  |  |  |  |
| Huynh-Feldt | 641.278 | 176.759 | 3.628 |  |  |  |  |  |
| Lower-bound | 641.278 | 93.000 | 6.895 |  |  |  |  |  |
| Timing | Sphericity Assumed | 99.590 | 1 | 99.590 |  |  |  |  |  |
| Greenhouse-Geisser | 99.590 | 1.000 | 99.590 |  |  |  |  |  |
| Huynh-Feldt | 99.590 | 1.000 | 99.590 |  |  |  |  |  |
| Lower-bound | 99.590 | 1.000 | 99.590 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 452.420 | 93 | 4.865 |  |  |  |  |  |
| Greenhouse-Geisser | 452.420 | 93.000 | 4.865 |  |  |  |  |  |
| Huynh-Feldt | 452.420 | 93.000 | 4.865 |  |  |  |  |  |
| Lower-bound | 452.420 | 93.000 | 4.865 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | .526 | 2 | .263 |  |  |  |  |  |
| Greenhouse-Geisser | .526 | 1.892 | .278 |  |  |  |  |  |
| Huynh-Feldt | .526 | 1.930 | .273 |  |  |  |  |  |
| Lower-bound | .526 | 1.000 | .526 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 474.824 | 186 | 2.553 |  |  |  |  |  |
| Greenhouse-Geisser | 474.824 | 175.940 | 2.699 |  |  |  |  |  |
| Huynh-Feldt | 474.824 | 179.483 | 2.646 |  |  |  |  |  |
| Lower-bound | 474.824 | 93.000 | 5.106 |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | .346 | 1 | .346 |  |  |  |  |  |
| Quadratic |  | .307 | 1 | .307 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 375.854 | 93 | 4.041 |  |  |  |  |  |
| Quadratic |  | 265.423 | 93 | 2.854 |  |  |  |  |  |
| Timing |  | Linear | 99.590 | 1 | 99.590 |  |  |  |  |  |
| Error(Timing) |  | Linear | 452.420 | 93 | 4.865 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | .015 | 1 | .015 |  |  |  |  |  |
| Quadratic | Linear | .511 | 1 | .511 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 218.545 | 93 | 2.350 |  |  |  |  |  |
| Quadratic | Linear | 256.279 | 93 | 2.756 |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 21501.968 | 1 | 21501.968 | 515.055 | .000 | .847 |  |  |
| Error | 3882.462 | 93 | 41.747 |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| F3\_LCLF1\_Initial | Intercept | 5.768 | .244 | 23.641 | .000 | 5.284 |  |  |  |  |
| F3\_LCLF1\_Ref | Intercept | 6.553 | .341 | 19.229 | .000 | 5.876 |  |  |  |  |
| F3\_MCMF1\_Initial | Intercept | 5.679 | .281 | 20.244 | .000 | 5.122 |  |  |  |  |
| F3\_MCMF1\_Ref | Intercept | 6.604 | .352 | 18.746 | .000 | 5.905 |  |  |  |  |
| F3\_HCHF1\_Initial | Intercept | 5.816 | .301 | 19.317 | .000 | 5.218 |  |  |  |  |
| F3\_HCHF1\_Ref | Intercept | 6.627 | .393 | 16.864 | .000 | 5.846 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 6.174 | .272 | 5.634 | 6.715 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 5.754 | .239 | 5.279 | 6.229 |
| 2 | 6.595 | .329 | 5.942 | 7.248 |

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| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.840\* | .186 | .000 | -1.209 | -.472 |
| 2 | 1 | .840\* | .186 | .000 | .472 | 1.209 |

|  |
| --- |
| Based on estimated marginal means |
| \*. The mean difference is significant at the .05 level. |
| b. Adjustment for multiple comparisons: Bonferroni. |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .180 | 20.472a | 1.000 | 93.000 | .000 | .180 |  |  |
| Wilks' lambda | .820 | 20.472a | 1.000 | 93.000 | .000 | .180 |  |  |
| Hotelling's trace | .220 | 20.472a | 1.000 | 93.000 | .000 | .180 |  |  |
| Roy's largest root | .220 | 20.472a | 1.000 | 93.000 | .000 | .180 |  |  |

**3. Comp\_Flu**

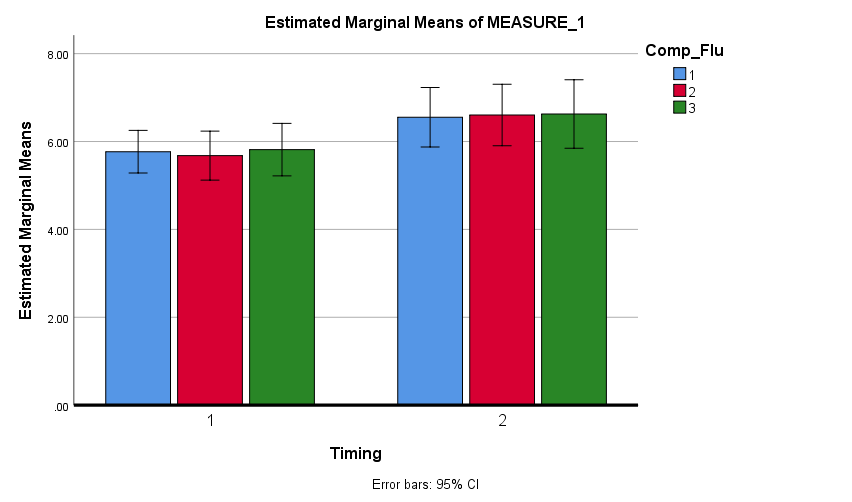
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.161 | .264 | 5.636 | 6.686 |
| 2 | 6.141 | .294 | 5.557 | 6.726 |
| 3 | 6.221 | .320 | 5.586 | 6.856 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .019 | .164 | 1.000 | -.381 |  |
| 3 | -.061 | .207 | 1.000 | -.566 |  |
| 2 | 1 | -.019 | .164 | 1.000 | -.419 |  |
| 3 | -.080 | .200 | 1.000 | -.568 |  |
| 3 | 1 | .061 | .207 | 1.000 | -.445 |  |
| 2 | .080 | .200 | 1.000 | -.409 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .002 | .079a | 2.000 | 92.000 | .924 | .002 |  |  |
| Wilks' lambda | .998 | .079a | 2.000 | 92.000 | .924 | .002 |  |  |
| Hotelling's trace | .002 | .079a | 2.000 | 92.000 | .924 | .002 |  |  |
| Roy's largest root | .002 | .079a | 2.000 | 92.000 | .924 | .002 |  |  |

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| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 5.768 | .244 | 5.284 | 6.253 |
| 2 | 5.679 | .281 | 5.122 | 6.236 |
| 3 | 5.816 | .301 | 5.218 | 6.414 |
| 2 | 1 | 6.553 | .341 | 5.876 | 7.230 |
| 2 | 6.604 | .352 | 5.905 | 7.304 |
| 3 | 6.627 | .393 | 5.846 | 7.407 |

**Profile Plots**



GLM FZ\_LCLF1\_Initial FZ\_LCLF1\_Ref FZ\_MCMF1\_Initial FZ\_MCMF1\_Ref FZ\_HCHF1\_Initial FZ\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 08:46:04 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM FZ\_LCLF1\_Initial FZ\_LCLF1\_Ref FZ\_MCMF1\_Initial FZ\_MCMF1\_Ref FZ\_HCHF1\_Initial FZ\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.20 |
| Elapsed Time | 00:00:00.20 |

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| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | FZ\_LCLF1\_Initial |
| 2 | FZ\_LCLF1\_Ref |
| 2 | 1 | FZ\_MCMF1\_Initial |
| 2 | FZ\_MCMF1\_Ref |
| 3 | 1 | FZ\_HCHF1\_Initial |
| 2 | FZ\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| FZ\_LCLF1\_Initial | 6.3173 | 2.89404 | 98 |
| FZ\_LCLF1\_Ref | 6.9847 | 3.52655 | 98 |
| FZ\_MCMF1\_Initial | 6.3041 | 3.31466 | 98 |
| FZ\_MCMF1\_Ref | 7.3592 | 3.92662 | 98 |
| FZ\_HCHF1\_Initial | 6.4592 | 3.47954 | 98 |
| FZ\_HCHF1\_Ref | 7.2347 | 4.00387 | 98 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .013 | .625b | 2.000 | 96.000 |  |  |  |  |
| Wilks' Lambda | .987 | .625b | 2.000 | 96.000 |  |  |  |  |
| Hotelling's Trace | .013 | .625b | 2.000 | 96.000 |  |  |  |  |
| Roy's Largest Root | .013 | .625b | 2.000 | 96.000 |  |  |  |  |
| Timing | Pillai's Trace | .176 | 20.739b | 1.000 | 97.000 |  |  |  |  |
| Wilks' Lambda | .824 | 20.739b | 1.000 | 97.000 |  |  |  |  |
| Hotelling's Trace | .214 | 20.739b | 1.000 | 97.000 |  |  |  |  |
| Roy's Largest Root | .214 | 20.739b | 1.000 | 97.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .017 | .805b | 2.000 | 96.000 |  |  |  |  |
| Wilks' Lambda | .983 | .805b | 2.000 | 96.000 |  |  |  |  |
| Hotelling's Trace | .017 | .805b | 2.000 | 96.000 |  |  |  |  |
| Roy's Largest Root | .017 | .805b | 2.000 | 96.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .971 | 2.799 | 2 | .247 | .972 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .949 | 5.062 | 2 | .080 | .951 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 4.654 | 2 | 2.327 |  |  |  |  |  |
| Greenhouse-Geisser | 4.654 | 1.944 | 2.394 |  |  |  |  |  |
| Huynh-Feldt | 4.654 | 1.983 | 2.347 |  |  |  |  |  |
| Lower-bound | 4.654 | 1.000 | 4.654 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 817.816 | 194 | 4.216 |  |  |  |  |  |
| Greenhouse-Geisser | 817.816 | 188.582 | 4.337 |  |  |  |  |  |
| Huynh-Feldt | 817.816 | 192.382 | 4.251 |  |  |  |  |  |
| Lower-bound | 817.816 | 97.000 | 8.431 |  |  |  |  |  |
| Timing | Sphericity Assumed | 101.917 | 1 | 101.917 |  |  |  |  |  |
| Greenhouse-Geisser | 101.917 | 1.000 | 101.917 |  |  |  |  |  |
| Huynh-Feldt | 101.917 | 1.000 | 101.917 |  |  |  |  |  |
| Lower-bound | 101.917 | 1.000 | 101.917 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 476.683 | 97 | 4.914 |  |  |  |  |  |
| Greenhouse-Geisser | 476.683 | 97.000 | 4.914 |  |  |  |  |  |
| Huynh-Feldt | 476.683 | 97.000 | 4.914 |  |  |  |  |  |
| Lower-bound | 476.683 | 97.000 | 4.914 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 3.924 | 2 | 1.962 |  |  |  |  |  |
| Greenhouse-Geisser | 3.924 | 1.902 | 2.063 |  |  |  |  |  |
| Huynh-Feldt | 3.924 | 1.939 | 2.023 |  |  |  |  |  |
| Lower-bound | 3.924 | 1.000 | 3.924 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 557.566 | 194 | 2.874 |  |  |  |  |  |
| Greenhouse-Geisser | 557.566 | 184.523 | 3.022 |  |  |  |  |  |
| Huynh-Feldt | 557.566 | 188.114 | 2.964 |  |  |  |  |  |
| Lower-bound | 557.566 | 97.000 | 5.748 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 3.762 | 1 | 3.762 |  |  |  |  |  |
| Quadratic |  | .893 | 1 | .893 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 421.843 | 97 | 4.349 |  |  |  |  |  |
| Quadratic |  | 395.972 | 97 | 4.082 |  |  |  |  |  |
| Timing |  | Linear | 101.917 | 1 | 101.917 |  |  |  |  |  |
| Error(Timing) |  | Linear | 476.683 | 97 | 4.914 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | .287 | 1 | .287 |  |  |  |  |  |
| Quadratic | Linear | 3.637 | 1 | 3.637 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 283.088 | 97 | 2.918 |  |  |  |  |  |
| Quadratic | Linear | 274.478 | 97 | 2.830 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 27001.764 | 1 | 27001.764 | 479.929 | .000 | .832 |  |  |
| Error | 5457.416 | 97 | 56.262 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| FZ\_LCLF1\_Initial | Intercept | 6.317 | .292 | 21.609 | .000 | 5.737 |  |  |  |  |
| FZ\_LCLF1\_Ref | Intercept | 6.985 | .356 | 19.607 | .000 | 6.278 |  |  |  |  |
| FZ\_MCMF1\_Initial | Intercept | 6.304 | .335 | 18.828 | .000 | 5.640 |  |  |  |  |
| FZ\_MCMF1\_Ref | Intercept | 7.359 | .397 | 18.553 | .000 | 6.572 |  |  |  |  |
| FZ\_HCHF1\_Initial | Intercept | 6.459 | .351 | 18.377 | .000 | 5.762 |  |  |  |  |
| FZ\_HCHF1\_Ref | Intercept | 7.235 | .404 | 17.888 | .000 | 6.432 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 6.777 | .309 | 6.163 | 7.390 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.360 | .291 | 5.783 | 6.937 |
| 2 | 7.193 | .351 | 6.495 | 7.890 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.833\* | .183 | .000 | -1.196 | -.470 |
| 2 | 1 | .833\* | .183 | .000 | .470 | 1.196 |

|  |
| --- |
| 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 | .176 | 20.739a | 1.000 | 97.000 | .000 | .176 |  |  |
| Wilks' lambda | .824 | 20.739a | 1.000 | 97.000 | .000 | .176 |  |  |
| Hotelling's trace | .214 | 20.739a | 1.000 | 97.000 | .000 | .176 |  |  |
| Roy's largest root | .214 | 20.739a | 1.000 | 97.000 | .000 | .176 |  |  |

**3. Comp\_Flu**

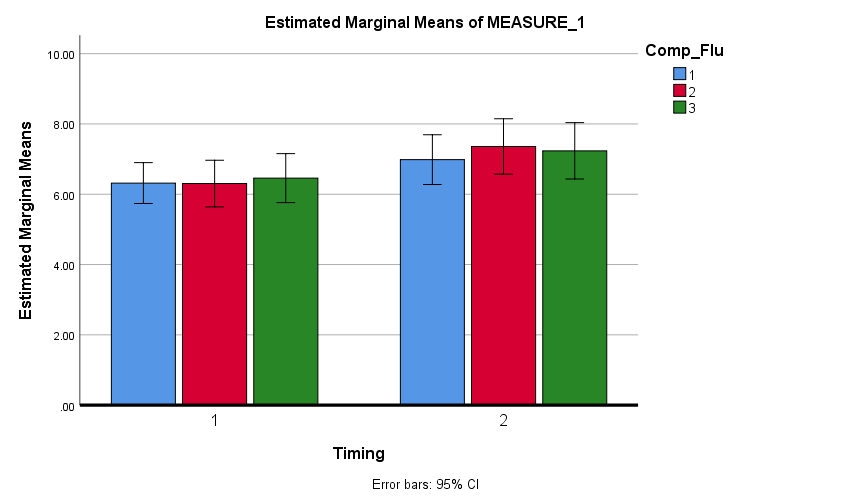
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.651 | .299 | 6.058 | 7.244 |
| 2 | 6.832 | .345 | 6.147 | 7.516 |
| 3 | 6.847 | .349 | 6.154 | 7.540 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | -.181 | .190 | 1.000 | -.644 |  |
| 3 | -.196 | .211 | 1.000 | -.709 |  |
| 2 | 1 | .181 | .190 | 1.000 | -.282 |  |
| 3 | -.015 | .220 | 1.000 | -.552 |  |
| 3 | 1 | .196 | .211 | 1.000 | -.317 |  |
| 2 | .015 | .220 | 1.000 | -.521 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .013 | .625a | 2.000 | 96.000 | .537 | .013 |  |  |
| Wilks' lambda | .987 | .625a | 2.000 | 96.000 | .537 | .013 |  |  |
| Hotelling's trace | .013 | .625a | 2.000 | 96.000 | .537 | .013 |  |  |
| Roy's largest root | .013 | .625a | 2.000 | 96.000 | .537 | .013 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 6.317 | .292 | 5.737 | 6.898 |
| 2 | 6.304 | .335 | 5.640 | 6.969 |
| 3 | 6.459 | .351 | 5.762 | 7.157 |
| 2 | 1 | 6.985 | .356 | 6.278 | 7.692 |
| 2 | 7.359 | .397 | 6.572 | 8.146 |
| 3 | 7.235 | .404 | 6.432 | 8.037 |

**Profile Plots**



GLM F4\_LCLF1\_Initial F4\_LCLF1\_Ref F4\_MCMF1\_Initial F4\_MCMF1\_Ref F4\_HCHF1\_Initial F4\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 08:50:08 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM F4\_LCLF1\_Initial F4\_LCLF1\_Ref F4\_MCMF1\_Initial F4\_MCMF1\_Ref F4\_HCHF1\_Initial F4\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.19 |
| Elapsed Time | 00:00:00.20 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | F4\_LCLF1\_Initial |
| 2 | F4\_LCLF1\_Ref |
| 2 | 1 | F4\_MCMF1\_Initial |
| 2 | F4\_MCMF1\_Ref |
| 3 | 1 | F4\_HCHF1\_Initial |
| 2 | F4\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| F4\_LCLF1\_Initial | 6.4044 | 2.65063 | 90 |
| F4\_LCLF1\_Ref | 7.3911 | 3.76589 | 90 |
| F4\_MCMF1\_Initial | 6.6033 | 3.38176 | 90 |
| F4\_MCMF1\_Ref | 7.5367 | 3.74875 | 90 |
| F4\_HCHF1\_Initial | 6.4133 | 3.31412 | 90 |
| F4\_HCHF1\_Ref | 7.2156 | 3.71223 | 90 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .014 | .620b | 2.000 | 88.000 |  |  |  |  |
| Wilks' Lambda | .986 | .620b | 2.000 | 88.000 |  |  |  |  |
| Hotelling's Trace | .014 | .620b | 2.000 | 88.000 |  |  |  |  |
| Roy's Largest Root | .014 | .620b | 2.000 | 88.000 |  |  |  |  |
| Timing | Pillai's Trace | .187 | 20.459b | 1.000 | 89.000 |  |  |  |  |
| Wilks' Lambda | .813 | 20.459b | 1.000 | 89.000 |  |  |  |  |
| Hotelling's Trace | .230 | 20.459b | 1.000 | 89.000 |  |  |  |  |
| Roy's Largest Root | .230 | 20.459b | 1.000 | 89.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .003 | .127b | 2.000 | 88.000 |  |  |  |  |
| Wilks' Lambda | .997 | .127b | 2.000 | 88.000 |  |  |  |  |
| Hotelling's Trace | .003 | .127b | 2.000 | 88.000 |  |  |  |  |
| Roy's Largest Root | .003 | .127b | 2.000 | 88.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .999 | .085 | 2 | .958 | .999 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .995 | .474 | 2 | .789 | .995 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 6.115 | 2 | 3.057 |  |  |  |  |  |
| Greenhouse-Geisser | 6.115 | 1.998 | 3.060 |  |  |  |  |  |
| Huynh-Feldt | 6.115 | 2.000 | 3.057 |  |  |  |  |  |
| Lower-bound | 6.115 | 1.000 | 6.115 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 843.315 | 178 | 4.738 |  |  |  |  |  |
| Greenhouse-Geisser | 843.315 | 177.828 | 4.742 |  |  |  |  |  |
| Huynh-Feldt | 843.315 | 178.000 | 4.738 |  |  |  |  |  |
| Lower-bound | 843.315 | 89.000 | 9.475 |  |  |  |  |  |
| Timing | Sphericity Assumed | 111.157 | 1 | 111.157 |  |  |  |  |  |
| Greenhouse-Geisser | 111.157 | 1.000 | 111.157 |  |  |  |  |  |
| Huynh-Feldt | 111.157 | 1.000 | 111.157 |  |  |  |  |  |
| Lower-bound | 111.157 | 1.000 | 111.157 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 483.563 | 89 | 5.433 |  |  |  |  |  |
| Greenhouse-Geisser | 483.563 | 89.000 | 5.433 |  |  |  |  |  |
| Huynh-Feldt | 483.563 | 89.000 | 5.433 |  |  |  |  |  |
| Lower-bound | 483.563 | 89.000 | 5.433 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | .811 | 2 | .405 |  |  |  |  |  |
| Greenhouse-Geisser | .811 | 1.989 | .408 |  |  |  |  |  |
| Huynh-Feldt | .811 | 2.000 | .405 |  |  |  |  |  |
| Lower-bound | .811 | 1.000 | .811 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 606.039 | 178 | 3.405 |  |  |  |  |  |
| Greenhouse-Geisser | 606.039 | 177.048 | 3.423 |  |  |  |  |  |
| Huynh-Feldt | 606.039 | 178.000 | 3.405 |  |  |  |  |  |
| Lower-bound | 606.039 | 89.000 | 6.809 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | .625 | 1 | .625 |  |  |  |  |  |
| Quadratic |  | 5.490 | 1 | 5.490 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 409.175 | 89 | 4.597 |  |  |  |  |  |
| Quadratic |  | 434.140 | 89 | 4.878 |  |  |  |  |  |
| Timing |  | Linear | 111.157 | 1 | 111.157 |  |  |  |  |  |
| Error(Timing) |  | Linear | 483.563 | 89 | 5.433 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | .765 | 1 | .765 |  |  |  |  |  |
| Quadratic | Linear | .045 | 1 | .045 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 281.005 | 89 | 3.157 |  |  |  |  |  |
| Quadratic | Linear | 325.035 | 89 | 3.652 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 25914.046 | 1 | 25914.046 | 520.958 | .000 | .854 |  |  |
| Error | 4427.134 | 89 | 49.743 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| F4\_LCLF1\_Initial | Intercept | 6.404 | .279 | 22.922 | .000 | 5.849 |  |  |  |  |
| F4\_LCLF1\_Ref | Intercept | 7.391 | .397 | 18.619 | .000 | 6.602 |  |  |  |  |
| F4\_MCMF1\_Initial | Intercept | 6.603 | .356 | 18.524 | .000 | 5.895 |  |  |  |  |
| F4\_MCMF1\_Ref | Intercept | 7.537 | .395 | 19.073 | .000 | 6.752 |  |  |  |  |
| F4\_HCHF1\_Initial | Intercept | 6.413 | .349 | 18.358 | .000 | 5.719 |  |  |  |  |
| F4\_HCHF1\_Ref | Intercept | 7.216 | .391 | 18.440 | .000 | 6.438 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 6.927 | .304 | 6.324 | 7.530 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.474 | .292 | 5.893 | 7.054 |
| 2 | 7.381 | .345 | 6.695 | 8.067 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.907\* | .201 | .000 | -1.306 | -.509 |
| 2 | 1 | .907\* | .201 | .000 | .509 | 1.306 |

|  |
| --- |
| 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 | .187 | 20.459a | 1.000 | 89.000 | .000 | .187 |  |  |
| Wilks' lambda | .813 | 20.459a | 1.000 | 89.000 | .000 | .187 |  |  |
| Hotelling's trace | .230 | 20.459a | 1.000 | 89.000 | .000 | .187 |  |  |
| Roy's largest root | .230 | 20.459a | 1.000 | 89.000 | .000 | .187 |  |  |

**3. Comp\_Flu**

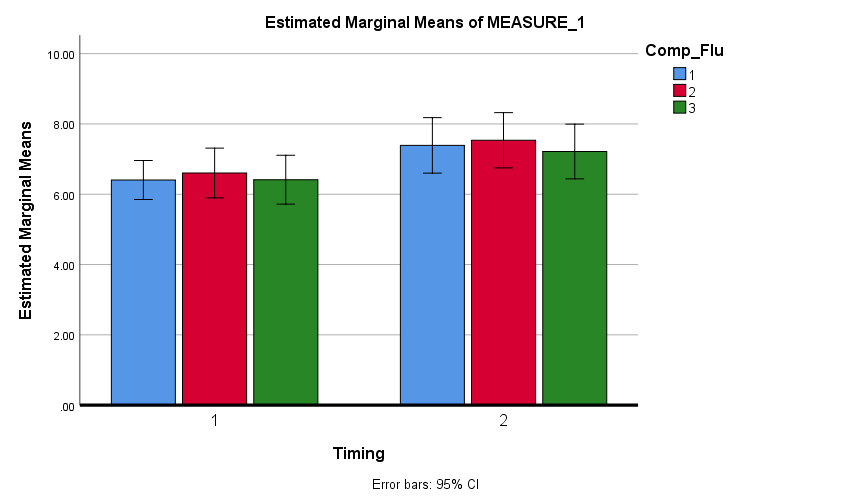
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.898 | .313 | 6.276 | 7.520 |
| 2 | 7.070 | .342 | 6.391 | 7.749 |
| 3 | 6.814 | .338 | 6.143 | 7.486 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | -.172 | .230 | 1.000 | -.734 |  |
| 3 | .083 | .226 | 1.000 | -.468 |  |
| 2 | 1 | .172 | .230 | 1.000 | -.389 |  |
| 3 | .256 | .232 | .821 | -.311 |  |
| 3 | 1 | -.083 | .226 | 1.000 | -.635 |  |
| 2 | -.256 | .232 | .821 | -.822 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .014 | .620a | 2.000 | 88.000 | .540 | .014 |  |  |
| Wilks' lambda | .986 | .620a | 2.000 | 88.000 | .540 | .014 |  |  |
| Hotelling's trace | .014 | .620a | 2.000 | 88.000 | .540 | .014 |  |  |
| Roy's largest root | .014 | .620a | 2.000 | 88.000 | .540 | .014 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 6.404 | .279 | 5.849 | 6.960 |
| 2 | 6.603 | .356 | 5.895 | 7.312 |
| 3 | 6.413 | .349 | 5.719 | 7.107 |
| 2 | 1 | 7.391 | .397 | 6.602 | 8.180 |
| 2 | 7.537 | .395 | 6.752 | 8.322 |
| 3 | 7.216 | .391 | 6.438 | 7.993 |

**Profile Plots**



GLM F8\_LCLF1\_Initial F8\_LCLF1\_Ref F8\_MCMF1\_Initial F8\_MCMF1\_Ref F8\_HCHF1\_Initial F8\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 08:54:47 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM F8\_LCLF1\_Initial F8\_LCLF1\_Ref F8\_MCMF1\_Initial F8\_MCMF1\_Ref F8\_HCHF1\_Initial F8\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.23 |
| Elapsed Time | 00:00:00.22 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | F8\_LCLF1\_Initial |
| 2 | F8\_LCLF1\_Ref |
| 2 | 1 | F8\_MCMF1\_Initial |
| 2 | F8\_MCMF1\_Ref |
| 3 | 1 | F8\_HCHF1\_Initial |
| 2 | F8\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| F8\_LCLF1\_Initial | 6.1170 | 1.94601 | 88 |
| F8\_LCLF1\_Ref | 6.3239 | 2.42397 | 88 |
| F8\_MCMF1\_Initial | 6.2023 | 2.94451 | 88 |
| F8\_MCMF1\_Ref | 6.5216 | 2.64694 | 88 |
| F8\_HCHF1\_Initial | 5.7261 | 2.01132 | 88 |
| F8\_HCHF1\_Ref | 6.6057 | 3.26829 | 88 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .009 | .374b | 2.000 | 86.000 |  |  |  |  |
| Wilks' Lambda | .991 | .374b | 2.000 | 86.000 |  |  |  |  |
| Hotelling's Trace | .009 | .374b | 2.000 | 86.000 |  |  |  |  |
| Roy's Largest Root | .009 | .374b | 2.000 | 86.000 |  |  |  |  |
| Timing | Pillai's Trace | .083 | 7.913b | 1.000 | 87.000 |  |  |  |  |
| Wilks' Lambda | .917 | 7.913b | 1.000 | 87.000 |  |  |  |  |
| Hotelling's Trace | .091 | 7.913b | 1.000 | 87.000 |  |  |  |  |
| Roy's Largest Root | .091 | 7.913b | 1.000 | 87.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .048 | 2.156b | 2.000 | 86.000 |  |  |  |  |
| Wilks' Lambda | .952 | 2.156b | 2.000 | 86.000 |  |  |  |  |
| Hotelling's Trace | .050 | 2.156b | 2.000 | 86.000 |  |  |  |  |
| Roy's Largest Root | .050 | 2.156b | 2.000 | 86.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .955 | 3.942 | 2 | .139 | .957 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .959 | 3.631 | 2 | .163 | .960 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 3.603 | 2 | 1.802 |  |  |  |  |  |
| Greenhouse-Geisser | 3.603 | 1.914 | 1.882 |  |  |  |  |  |
| Huynh-Feldt | 3.603 | 1.956 | 1.842 |  |  |  |  |  |
| Lower-bound | 3.603 | 1.000 | 3.603 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 684.087 | 174 | 3.932 |  |  |  |  |  |
| Greenhouse-Geisser | 684.087 | 166.539 | 4.108 |  |  |  |  |  |
| Huynh-Feldt | 684.087 | 170.198 | 4.019 |  |  |  |  |  |
| Lower-bound | 684.087 | 87.000 | 7.863 |  |  |  |  |  |
| Timing | Sphericity Assumed | 28.980 | 1 | 28.980 |  |  |  |  |  |
| Greenhouse-Geisser | 28.980 | 1.000 | 28.980 |  |  |  |  |  |
| Huynh-Feldt | 28.980 | 1.000 | 28.980 |  |  |  |  |  |
| Lower-bound | 28.980 | 1.000 | 28.980 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 318.645 | 87 | 3.663 |  |  |  |  |  |
| Greenhouse-Geisser | 318.645 | 87.000 | 3.663 |  |  |  |  |  |
| Huynh-Feldt | 318.645 | 87.000 | 3.663 |  |  |  |  |  |
| Lower-bound | 318.645 | 87.000 | 3.663 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 11.426 | 2 | 5.713 |  |  |  |  |  |
| Greenhouse-Geisser | 11.426 | 1.921 | 5.949 |  |  |  |  |  |
| Huynh-Feldt | 11.426 | 1.963 | 5.821 |  |  |  |  |  |
| Lower-bound | 11.426 | 1.000 | 11.426 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 463.704 | 174 | 2.665 |  |  |  |  |  |
| Greenhouse-Geisser | 463.704 | 167.093 | 2.775 |  |  |  |  |  |
| Huynh-Feldt | 463.704 | 170.784 | 2.715 |  |  |  |  |  |
| Lower-bound | 463.704 | 87.000 | 5.330 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | .262 | 1 | .262 |  |  |  |  |  |
| Quadratic |  | 3.341 | 1 | 3.341 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 277.728 | 87 | 3.192 |  |  |  |  |  |
| Quadratic |  | 406.359 | 87 | 4.671 |  |  |  |  |  |
| Timing |  | Linear | 28.980 | 1 | 28.980 |  |  |  |  |  |
| Error(Timing) |  | Linear | 318.645 | 87 | 3.663 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 9.956 | 1 | 9.956 |  |  |  |  |  |
| Quadratic | Linear | 1.470 | 1 | 1.470 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 204.734 | 87 | 2.353 |  |  |  |  |  |
| Quadratic | Linear | 258.970 | 87 | 2.977 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 20621.250 | 1 | 20621.250 | 888.444 | .000 | .911 |  |  |
| Error | 2019.315 | 87 | 23.211 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| F8\_LCLF1\_Initial | Intercept | 6.117 | .207 | 29.488 | .000 | 5.705 |  |  |  |  |
| F8\_LCLF1\_Ref | Intercept | 6.324 | .258 | 24.474 | .000 | 5.810 |  |  |  |  |
| F8\_MCMF1\_Initial | Intercept | 6.202 | .314 | 19.760 | .000 | 5.578 |  |  |  |  |
| F8\_MCMF1\_Ref | Intercept | 6.522 | .282 | 23.113 | .000 | 5.961 |  |  |  |  |
| F8\_HCHF1\_Initial | Intercept | 5.726 | .214 | 26.707 | .000 | 5.300 |  |  |  |  |
| F8\_HCHF1\_Ref | Intercept | 6.606 | .348 | 18.960 | .000 | 5.913 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 6.249 | .210 | 5.833 | 6.666 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.015 | .199 | 5.620 | 6.410 |
| 2 | 6.484 | .250 | 5.988 | 6.980 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.469\* | .167 | .006 | -.800 | -.137 |
| 2 | 1 | .469\* | .167 | .006 | .137 | .800 |

|  |
| --- |
| 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 | .083 | 7.913a | 1.000 | 87.000 | .006 | .083 |  |  |
| Wilks' lambda | .917 | 7.913a | 1.000 | 87.000 | .006 | .083 |  |  |
| Hotelling's trace | .091 | 7.913a | 1.000 | 87.000 | .006 | .083 |  |  |
| Roy's largest root | .091 | 7.913a | 1.000 | 87.000 | .006 | .083 |  |  |

**3. Comp\_Flu**

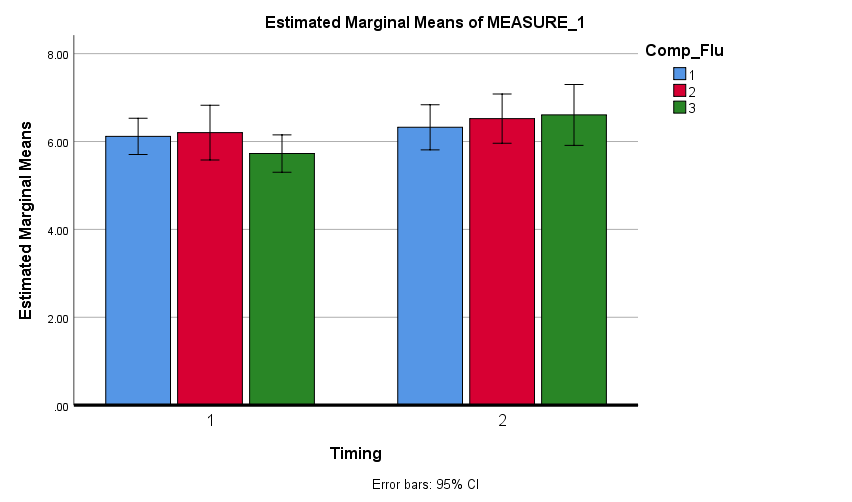
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 6.220 | .213 | 5.798 | 6.643 |
| 2 | 6.362 | .266 | 5.833 | 6.890 |
| 3 | 6.166 | .246 | 5.676 | 6.656 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | -.141 | .212 | 1.000 | -.660 |  |
| 3 | .055 | .190 | 1.000 | -.410 |  |
| 2 | 1 | .141 | .212 | 1.000 | -.377 |  |
| 3 | .196 | .229 | 1.000 | -.364 |  |
| 3 | 1 | -.055 | .190 | 1.000 | -.519 |  |
| 2 | -.196 | .229 | 1.000 | -.756 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .009 | .374a | 2.000 | 86.000 | .689 | .009 |  |  |
| Wilks' lambda | .991 | .374a | 2.000 | 86.000 | .689 | .009 |  |  |
| Hotelling's trace | .009 | .374a | 2.000 | 86.000 | .689 | .009 |  |  |
| Roy's largest root | .009 | .374a | 2.000 | 86.000 | .689 | .009 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 6.117 | .207 | 5.705 | 6.529 |
| 2 | 6.202 | .314 | 5.578 | 6.826 |
| 3 | 5.726 | .214 | 5.300 | 6.152 |
| 2 | 1 | 6.324 | .258 | 5.810 | 6.837 |
| 2 | 6.522 | .282 | 5.961 | 7.082 |
| 3 | 6.606 | .348 | 5.913 | 7.298 |

**Profile Plots**



GLM T3\_LCLF1\_Initial T3\_LCLF1\_Ref T3\_MCMF1\_Initial T3\_MCMF1\_Ref T3\_HCHF1\_Initial T3\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:03:50 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM T3\_LCLF1\_Initial T3\_LCLF1\_Ref T3\_MCMF1\_Initial T3\_MCMF1\_Ref T3\_HCHF1\_Initial T3\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.23 |
| Elapsed Time | 00:00:00.23 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | T3\_LCLF1\_Initial |
| 2 | T3\_LCLF1\_Ref |
| 2 | 1 | T3\_MCMF1\_Initial |
| 2 | T3\_MCMF1\_Ref |
| 3 | 1 | T3\_HCHF1\_Initial |
| 2 | T3\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| T3\_LCLF1\_Initial | 3.9104 | 2.03229 | 96 |
| T3\_LCLF1\_Ref | 4.2219 | 2.12326 | 96 |
| T3\_MCMF1\_Initial | 3.5990 | 2.06543 | 96 |
| T3\_MCMF1\_Ref | 3.7323 | 1.80860 | 96 |
| T3\_HCHF1\_Initial | 3.2594 | 1.51070 | 96 |
| T3\_HCHF1\_Ref | 3.8167 | 1.89418 | 96 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .086 | 4.446b | 2.000 | 94.000 |  |  |  |  |
| Wilks' Lambda | .914 | 4.446b | 2.000 | 94.000 |  |  |  |  |
| Hotelling's Trace | .095 | 4.446b | 2.000 | 94.000 |  |  |  |  |
| Roy's Largest Root | .095 | 4.446b | 2.000 | 94.000 |  |  |  |  |
| Timing | Pillai's Trace | .096 | 10.092b | 1.000 | 95.000 |  |  |  |  |
| Wilks' Lambda | .904 | 10.092b | 1.000 | 95.000 |  |  |  |  |
| Hotelling's Trace | .106 | 10.092b | 1.000 | 95.000 |  |  |  |  |
| Roy's Largest Root | .106 | 10.092b | 1.000 | 95.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .047 | 2.332b | 2.000 | 94.000 |  |  |  |  |
| Wilks' Lambda | .953 | 2.332b | 2.000 | 94.000 |  |  |  |  |
| Hotelling's Trace | .050 | 2.332b | 2.000 | 94.000 |  |  |  |  |
| Roy's Largest Root | .050 | 2.332b | 2.000 | 94.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .880 | 11.991 | 2 | .002 | .893 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .897 | 10.268 | 2 | .006 | .906 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 29.159 | 2 | 14.580 |  |  |  |  |  |
| Greenhouse-Geisser | 29.159 | 1.786 | 16.326 |  |  |  |  |  |
| Huynh-Feldt | 29.159 | 1.818 | 16.039 |  |  |  |  |  |
| Lower-bound | 29.159 | 1.000 | 29.159 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 459.541 | 190 | 2.419 |  |  |  |  |  |
| Greenhouse-Geisser | 459.541 | 169.679 | 2.708 |  |  |  |  |  |
| Huynh-Feldt | 459.541 | 172.712 | 2.661 |  |  |  |  |  |
| Lower-bound | 459.541 | 95.000 | 4.837 |  |  |  |  |  |
| Timing | Sphericity Assumed | 16.067 | 1 | 16.067 |  |  |  |  |  |
| Greenhouse-Geisser | 16.067 | 1.000 | 16.067 |  |  |  |  |  |
| Huynh-Feldt | 16.067 | 1.000 | 16.067 |  |  |  |  |  |
| Lower-bound | 16.067 | 1.000 | 16.067 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 151.243 | 95 | 1.592 |  |  |  |  |  |
| Greenhouse-Geisser | 151.243 | 95.000 | 1.592 |  |  |  |  |  |
| Huynh-Feldt | 151.243 | 95.000 | 1.592 |  |  |  |  |  |
| Lower-bound | 151.243 | 95.000 | 1.592 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 4.350 | 2 | 2.175 |  |  |  |  |  |
| Greenhouse-Geisser | 4.350 | 1.812 | 2.400 |  |  |  |  |  |
| Huynh-Feldt | 4.350 | 1.846 | 2.357 |  |  |  |  |  |
| Lower-bound | 4.350 | 1.000 | 4.350 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 219.330 | 190 | 1.154 |  |  |  |  |  |
| Greenhouse-Geisser | 219.330 | 172.183 | 1.274 |  |  |  |  |  |
| Huynh-Feldt | 219.330 | 175.340 | 1.251 |  |  |  |  |  |
| Lower-bound | 219.330 | 95.000 | 2.309 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 26.776 | 1 | 26.776 |  |  |  |  |  |
| Quadratic |  | 2.383 | 1 | 2.383 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 290.914 | 95 | 3.062 |  |  |  |  |  |
| Quadratic |  | 168.627 | 95 | 1.775 |  |  |  |  |  |
| Timing |  | Linear | 16.067 | 1 | 16.067 |  |  |  |  |  |
| Error(Timing) |  | Linear | 151.243 | 95 | 1.592 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 1.450 | 1 | 1.450 |  |  |  |  |  |
| Quadratic | Linear | 2.900 | 1 | 2.900 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 83.290 | 95 | .877 |  |  |  |  |  |
| Quadratic | Linear | 136.040 | 95 | 1.432 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 8128.525 | 1 | 8128.525 | 610.817 | .000 | .865 |  |  |
| Error | 1264.225 | 95 | 13.308 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| T3\_LCLF1\_Initial | Intercept | 3.910 | .207 | 18.853 | .000 | 3.499 |  |  |  |  |
| T3\_LCLF1\_Ref | Intercept | 4.222 | .217 | 19.482 | .000 | 3.792 |  |  |  |  |
| T3\_MCMF1\_Initial | Intercept | 3.599 | .211 | 17.073 | .000 | 3.180 |  |  |  |  |
| T3\_MCMF1\_Ref | Intercept | 3.732 | .185 | 20.219 | .000 | 3.366 |  |  |  |  |
| T3\_HCHF1\_Initial | Intercept | 3.259 | .154 | 21.139 | .000 | 2.953 |  |  |  |  |
| T3\_HCHF1\_Ref | Intercept | 3.817 | .193 | 19.742 | .000 | 3.433 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 3.757 | .152 | 3.455 | 4.058 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.590 | .152 | 3.287 | 3.892 |
| 2 | 3.924 | .169 | 3.588 | 4.259 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.334\* | .105 | .002 | -.543 | -.125 |
| 2 | 1 | .334\* | .105 | .002 | .125 | .543 |

|  |
| --- |
| 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 | .096 | 10.092a | 1.000 | 95.000 | .002 | .096 |  |  |
| Wilks' lambda | .904 | 10.092a | 1.000 | 95.000 | .002 | .096 |  |  |
| Hotelling's trace | .106 | 10.092a | 1.000 | 95.000 | .002 | .096 |  |  |
| Roy's largest root | .106 | 10.092a | 1.000 | 95.000 | .002 | .096 |  |  |

**3. Comp\_Flu**

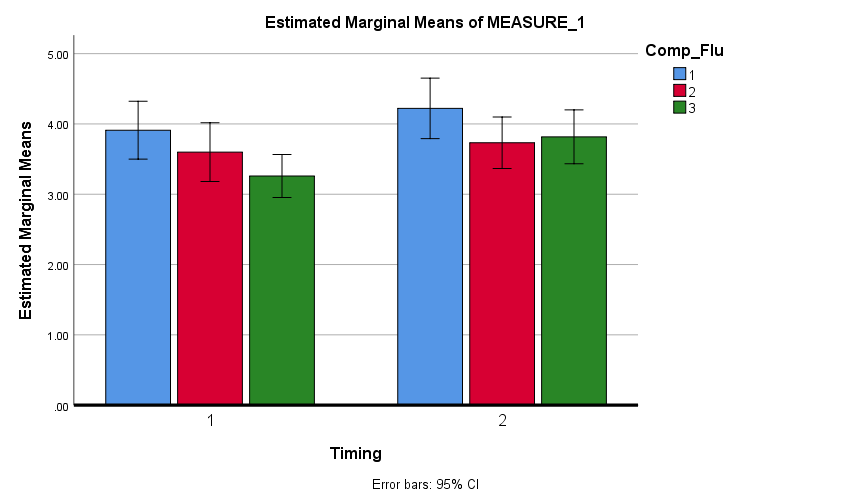
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.066 | .193 | 3.683 | 4.450 |
| 2 | 3.666 | .180 | 3.309 | 4.023 |
| 3 | 3.538 | .158 | 3.225 | 3.851 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb |  |
| Lower Bound |  |
| 1 | 2 | .401\* | .163 | .048 | .003 |  |
| 3 | .528\* | .179 | .012 | .093 |  |
| 2 | 1 | -.401\* | .163 | .048 | -.799 |  |
| 3 | .128 | .130 | .991 | -.190 |  |
| 3 | 1 | -.528\* | .179 | .012 | -.963 |  |
| 2 | -.128 | .130 | .991 | -.446 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .086 | 4.446a | 2.000 | 94.000 | .014 | .086 |  |  |
| Wilks' lambda | .914 | 4.446a | 2.000 | 94.000 | .014 | .086 |  |  |
| Hotelling's trace | .095 | 4.446a | 2.000 | 94.000 | .014 | .086 |  |  |
| Roy's largest root | .095 | 4.446a | 2.000 | 94.000 | .014 | .086 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 3.910 | .207 | 3.499 | 4.322 |
| 2 | 3.599 | .211 | 3.180 | 4.017 |
| 3 | 3.259 | .154 | 2.953 | 3.565 |
| 2 | 1 | 4.222 | .217 | 3.792 | 4.652 |
| 2 | 3.732 | .185 | 3.366 | 4.099 |
| 3 | 3.817 | .193 | 3.433 | 4.200 |

**Profile Plots**



GLM C3\_LCLF1\_Initial C3\_LCLF1\_Ref C3\_MCMF1\_Initial C3\_MCMF1\_Ref C3\_HCHF1\_Initial C3\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:10:43 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM C3\_LCLF1\_Initial C3\_LCLF1\_Ref C3\_MCMF1\_Initial C3\_MCMF1\_Ref C3\_HCHF1\_Initial C3\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.22 |
| Elapsed Time | 00:00:00.21 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | C3\_LCLF1\_Initial |
| 2 | C3\_LCLF1\_Ref |
| 2 | 1 | C3\_MCMF1\_Initial |
| 2 | C3\_MCMF1\_Ref |
| 3 | 1 | C3\_HCHF1\_Initial |
| 2 | C3\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| C3\_LCLF1\_Initial | 4.2444 | 1.86755 | 81 |
| C3\_LCLF1\_Ref | 4.7642 | 2.80630 | 81 |
| C3\_MCMF1\_Initial | 4.1000 | 2.21574 | 81 |
| C3\_MCMF1\_Ref | 4.8136 | 2.99210 | 81 |
| C3\_HCHF1\_Initial | 3.9346 | 1.97536 | 81 |
| C3\_HCHF1\_Ref | 4.7407 | 2.98059 | 81 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .016 | .637b | 2.000 | 79.000 |  |  |  |  |
| Wilks' Lambda | .984 | .637b | 2.000 | 79.000 |  |  |  |  |
| Hotelling's Trace | .016 | .637b | 2.000 | 79.000 |  |  |  |  |
| Roy's Largest Root | .016 | .637b | 2.000 | 79.000 |  |  |  |  |
| Timing | Pillai's Trace | .175 | 16.995b | 1.000 | 80.000 |  |  |  |  |
| Wilks' Lambda | .825 | 16.995b | 1.000 | 80.000 |  |  |  |  |
| Hotelling's Trace | .212 | 16.995b | 1.000 | 80.000 |  |  |  |  |
| Roy's Largest Root | .212 | 16.995b | 1.000 | 80.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .019 | .775b | 2.000 | 79.000 |  |  |  |  |
| Wilks' Lambda | .981 | .775b | 2.000 | 79.000 |  |  |  |  |
| Hotelling's Trace | .020 | .775b | 2.000 | 79.000 |  |  |  |  |
| Roy's Largest Root | .020 | .775b | 2.000 | 79.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .955 | 3.603 | 2 | .165 | .957 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .922 | 6.446 | 2 | .040 | .927 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 2.388 | 2 | 1.194 |  |  |  |  |  |
| Greenhouse-Geisser | 2.388 | 1.915 | 1.247 |  |  |  |  |  |
| Huynh-Feldt | 2.388 | 1.960 | 1.218 |  |  |  |  |  |
| Lower-bound | 2.388 | 1.000 | 2.388 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 244.972 | 160 | 1.531 |  |  |  |  |  |
| Greenhouse-Geisser | 244.972 | 153.171 | 1.599 |  |  |  |  |  |
| Huynh-Feldt | 244.972 | 156.839 | 1.562 |  |  |  |  |  |
| Lower-bound | 244.972 | 80.000 | 3.062 |  |  |  |  |  |
| Timing | Sphericity Assumed | 56.154 | 1 | 56.154 |  |  |  |  |  |
| Greenhouse-Geisser | 56.154 | 1.000 | 56.154 |  |  |  |  |  |
| Huynh-Feldt | 56.154 | 1.000 | 56.154 |  |  |  |  |  |
| Lower-bound | 56.154 | 1.000 | 56.154 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 264.336 | 80 | 3.304 |  |  |  |  |  |
| Greenhouse-Geisser | 264.336 | 80.000 | 3.304 |  |  |  |  |  |
| Huynh-Feldt | 264.336 | 80.000 | 3.304 |  |  |  |  |  |
| Lower-bound | 264.336 | 80.000 | 3.304 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 1.730 | 2 | .865 |  |  |  |  |  |
| Greenhouse-Geisser | 1.730 | 1.855 | .933 |  |  |  |  |  |
| Huynh-Feldt | 1.730 | 1.897 | .912 |  |  |  |  |  |
| Lower-bound | 1.730 | 1.000 | 1.730 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 197.270 | 160 | 1.233 |  |  |  |  |  |
| Greenhouse-Geisser | 197.270 | 148.374 | 1.330 |  |  |  |  |  |
| Huynh-Feldt | 197.270 | 151.747 | 1.300 |  |  |  |  |  |
| Lower-bound | 197.270 | 80.000 | 2.466 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 2.250 | 1 | 2.250 |  |  |  |  |  |
| Quadratic |  | .138 | 1 | .138 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 146.560 | 80 | 1.832 |  |  |  |  |  |
| Quadratic |  | 98.412 | 80 | 1.230 |  |  |  |  |  |
| Timing |  | Linear | 56.154 | 1 | 56.154 |  |  |  |  |  |
| Error(Timing) |  | Linear | 264.336 | 80 | 3.304 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 1.661 | 1 | 1.661 |  |  |  |  |  |
| Quadratic | Linear | .069 | 1 | .069 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 106.649 | 80 | 1.333 |  |  |  |  |  |
| Quadratic | Linear | 90.621 | 80 | 1.133 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 9550.287 | 1 | 9550.287 | 327.300 | .000 | .804 |  |  |
| Error | 2334.323 | 80 | 29.179 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| C3\_LCLF1\_Initial | Intercept | 4.244 | .208 | 20.455 | .000 | 3.831 |  |  |  |  |
| C3\_LCLF1\_Ref | Intercept | 4.764 | .312 | 15.279 | .000 | 4.144 |  |  |  |  |
| C3\_MCMF1\_Initial | Intercept | 4.100 | .246 | 16.654 | .000 | 3.610 |  |  |  |  |
| C3\_MCMF1\_Ref | Intercept | 4.814 | .332 | 14.479 | .000 | 4.152 |  |  |  |  |
| C3\_HCHF1\_Initial | Intercept | 3.935 | .219 | 17.926 | .000 | 3.498 |  |  |  |  |
| C3\_HCHF1\_Ref | Intercept | 4.741 | .331 | 14.315 | .000 | 4.082 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 4.433 | .245 | 3.945 | 4.921 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.093 | .200 | 3.695 | 4.491 |
| 2 | 4.773 | .306 | 4.164 | 5.382 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.680\* | .165 | .000 | -1.008 | -.352 |
| 2 | 1 | .680\* | .165 | .000 | .352 | 1.008 |

|  |
| --- |
| 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 | .175 | 16.995a | 1.000 | 80.000 | .000 | .175 |  |  |
| Wilks' lambda | .825 | 16.995a | 1.000 | 80.000 | .000 | .175 |  |  |
| Hotelling's trace | .212 | 16.995a | 1.000 | 80.000 | .000 | .175 |  |  |
| Roy's largest root | .212 | 16.995a | 1.000 | 80.000 | .000 | .175 |  |  |

**3. Comp\_Flu**

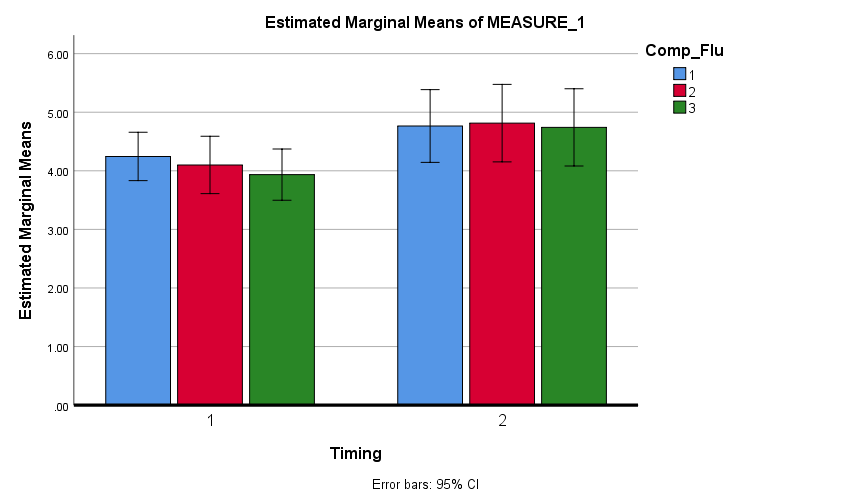
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.504 | .238 | 4.031 | 4.977 |
| 2 | 4.457 | .274 | 3.912 | 5.002 |
| 3 | 4.338 | .260 | 3.821 | 4.854 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .048 | .126 | 1.000 | -.260 |  |
| 3 | .167 | .150 | .813 | -.201 |  |
| 2 | 1 | -.048 | .126 | 1.000 | -.355 |  |
| 3 | .119 | .135 | 1.000 | -.212 |  |
| 3 | 1 | -.167 | .150 | .813 | -.534 |  |
| 2 | -.119 | .135 | 1.000 | -.450 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .016 | .637a | 2.000 | 79.000 | .532 | .016 |  |  |
| Wilks' lambda | .984 | .637a | 2.000 | 79.000 | .532 | .016 |  |  |
| Hotelling's trace | .016 | .637a | 2.000 | 79.000 | .532 | .016 |  |  |
| Roy's largest root | .016 | .637a | 2.000 | 79.000 | .532 | .016 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 4.244 | .208 | 3.831 | 4.657 |
| 2 | 4.100 | .246 | 3.610 | 4.590 |
| 3 | 3.935 | .219 | 3.498 | 4.371 |
| 2 | 1 | 4.764 | .312 | 4.144 | 5.385 |
| 2 | 4.814 | .332 | 4.152 | 5.475 |
| 3 | 4.741 | .331 | 4.082 | 5.400 |

**Profile Plots**



GLM CZ\_LCLF1\_Initial CZ\_LCLF1\_Ref CZ\_MCMF1\_Initial CZ\_MCMF1\_Ref CZ\_HCHF1\_Initial CZ\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:16:01 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM CZ\_LCLF1\_Initial CZ\_LCLF1\_Ref CZ\_MCMF1\_Initial CZ\_MCMF1\_Ref CZ\_HCHF1\_Initial CZ\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.22 |
| Elapsed Time | 00:00:00.21 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | CZ\_LCLF1\_Initial |
| 2 | CZ\_LCLF1\_Ref |
| 2 | 1 | CZ\_MCMF1\_Initial |
| 2 | CZ\_MCMF1\_Ref |
| 3 | 1 | CZ\_HCHF1\_Initial |
| 2 | CZ\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| CZ\_LCLF1\_Initial | 4.8348 | 2.08877 | 92 |
| CZ\_LCLF1\_Ref | 5.6446 | 2.85728 | 92 |
| CZ\_MCMF1\_Initial | 4.9674 | 2.11692 | 92 |
| CZ\_MCMF1\_Ref | 5.7696 | 2.81303 | 92 |
| CZ\_HCHF1\_Initial | 4.9380 | 2.05901 | 92 |
| CZ\_HCHF1\_Ref | 5.7707 | 3.01011 | 92 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .009 | .410b | 2.000 | 90.000 |  |  |  |  |
| Wilks' Lambda | .991 | .410b | 2.000 | 90.000 |  |  |  |  |
| Hotelling's Trace | .009 | .410b | 2.000 | 90.000 |  |  |  |  |
| Roy's Largest Root | .009 | .410b | 2.000 | 90.000 |  |  |  |  |
| Timing | Pillai's Trace | .221 | 25.771b | 1.000 | 91.000 |  |  |  |  |
| Wilks' Lambda | .779 | 25.771b | 1.000 | 91.000 |  |  |  |  |
| Hotelling's Trace | .283 | 25.771b | 1.000 | 91.000 |  |  |  |  |
| Roy's Largest Root | .283 | 25.771b | 1.000 | 91.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .000 | .005b | 2.000 | 90.000 |  |  |  |  |
| Wilks' Lambda | 1.000 | .005b | 2.000 | 90.000 |  |  |  |  |
| Hotelling's Trace | .000 | .005b | 2.000 | 90.000 |  |  |  |  |
| Roy's Largest Root | .000 | .005b | 2.000 | 90.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .989 | .958 | 2 | .619 | .990 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .960 | 3.715 | 2 | .156 | .961 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 1.836 | 2 | .918 |  |  |  |  |  |
| Greenhouse-Geisser | 1.836 | 1.979 | .928 |  |  |  |  |  |
| Huynh-Feldt | 1.836 | 2.000 | .918 |  |  |  |  |  |
| Lower-bound | 1.836 | 1.000 | 1.836 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 433.917 | 182 | 2.384 |  |  |  |  |  |
| Greenhouse-Geisser | 433.917 | 180.093 | 2.409 |  |  |  |  |  |
| Huynh-Feldt | 433.917 | 182.000 | 2.384 |  |  |  |  |  |
| Lower-bound | 433.917 | 91.000 | 4.768 |  |  |  |  |  |
| Timing | Sphericity Assumed | 91.630 | 1 | 91.630 |  |  |  |  |  |
| Greenhouse-Geisser | 91.630 | 1.000 | 91.630 |  |  |  |  |  |
| Huynh-Feldt | 91.630 | 1.000 | 91.630 |  |  |  |  |  |
| Lower-bound | 91.630 | 1.000 | 91.630 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 323.558 | 91 | 3.556 |  |  |  |  |  |
| Greenhouse-Geisser | 323.558 | 91.000 | 3.556 |  |  |  |  |  |
| Huynh-Feldt | 323.558 | 91.000 | 3.556 |  |  |  |  |  |
| Lower-bound | 323.558 | 91.000 | 3.556 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | .023 | 2 | .012 |  |  |  |  |  |
| Greenhouse-Geisser | .023 | 1.922 | .012 |  |  |  |  |  |
| Huynh-Feldt | .023 | 1.963 | .012 |  |  |  |  |  |
| Lower-bound | .023 | 1.000 | .023 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 344.824 | 182 | 1.895 |  |  |  |  |  |
| Greenhouse-Geisser | 344.824 | 174.927 | 1.971 |  |  |  |  |  |
| Huynh-Feldt | 344.824 | 178.623 | 1.930 |  |  |  |  |  |
| Lower-bound | 344.824 | 91.000 | 3.789 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 1.210 | 1 | 1.210 |  |  |  |  |  |
| Quadratic |  | .627 | 1 | .627 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 228.613 | 91 | 2.512 |  |  |  |  |  |
| Quadratic |  | 205.304 | 91 | 2.256 |  |  |  |  |  |
| Timing |  | Linear | 91.630 | 1 | 91.630 |  |  |  |  |  |
| Error(Timing) |  | Linear | 323.558 | 91 | 3.556 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | .012 | 1 | .012 |  |  |  |  |  |
| Quadratic | Linear | .011 | 1 | .011 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 193.951 | 91 | 2.131 |  |  |  |  |  |
| Quadratic | Linear | 150.873 | 91 | 1.658 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 15627.820 | 1 | 15627.820 | 598.570 | .000 | .868 |  |  |
| Error | 2375.882 | 91 | 26.109 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| CZ\_LCLF1\_Initial | Intercept | 4.835 | .218 | 22.201 | .000 | 4.402 |  |  |  |  |
| CZ\_LCLF1\_Ref | Intercept | 5.645 | .298 | 18.948 | .000 | 5.053 |  |  |  |  |
| CZ\_MCMF1\_Initial | Intercept | 4.967 | .221 | 22.507 | .000 | 4.529 |  |  |  |  |
| CZ\_MCMF1\_Ref | Intercept | 5.770 | .293 | 19.673 | .000 | 5.187 |  |  |  |  |
| CZ\_HCHF1\_Initial | Intercept | 4.938 | .215 | 23.003 | .000 | 4.512 |  |  |  |  |
| CZ\_HCHF1\_Ref | Intercept | 5.771 | .314 | 18.388 | .000 | 5.147 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 5.321 | .217 | 4.889 | 5.753 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.913 | .187 | 4.543 | 5.284 |
| 2 | 5.728 | .270 | 5.193 | 6.264 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.815\* | .161 | .000 | -1.134 | -.496 |
| 2 | 1 | .815\* | .161 | .000 | .496 | 1.134 |

|  |
| --- |
| 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 | .221 | 25.771a | 1.000 | 91.000 | .000 | .221 |  |  |
| Wilks' lambda | .779 | 25.771a | 1.000 | 91.000 | .000 | .221 |  |  |
| Hotelling's trace | .283 | 25.771a | 1.000 | 91.000 | .000 | .221 |  |  |
| Roy's largest root | .283 | 25.771a | 1.000 | 91.000 | .000 | .221 |  |  |

**3. Comp\_Flu**

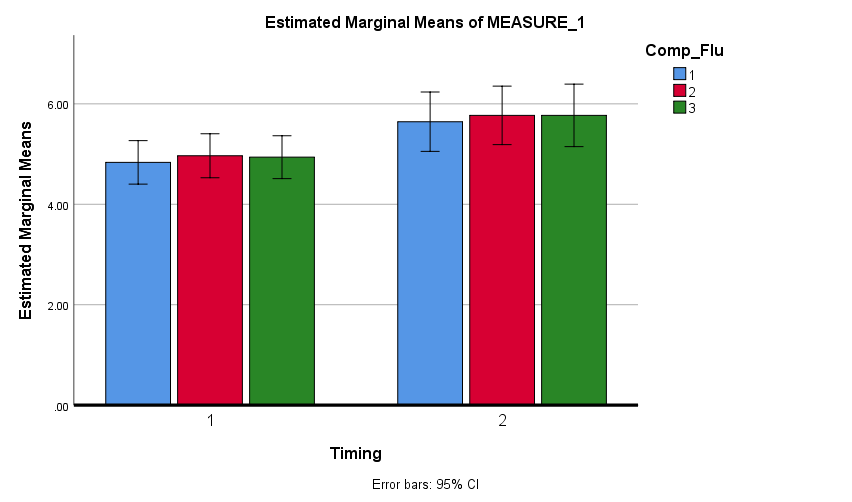
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 5.240 | .234 | 4.776 | 5.704 |
| 2 | 5.368 | .235 | 4.902 | 5.835 |
| 3 | 5.354 | .241 | 4.876 | 5.833 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | -.129 | .152 | 1.000 | -.501 |  |
| 3 | -.115 | .165 | 1.000 | -.518 |  |
| 2 | 1 | .129 | .152 | 1.000 | -.243 |  |
| 3 | .014 | .165 | 1.000 | -.388 |  |
| 3 | 1 | .115 | .165 | 1.000 | -.288 |  |
| 2 | -.014 | .165 | 1.000 | -.416 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .009 | .410a | 2.000 | 90.000 | .665 | .009 |  |  |
| Wilks' lambda | .991 | .410a | 2.000 | 90.000 | .665 | .009 |  |  |
| Hotelling's trace | .009 | .410a | 2.000 | 90.000 | .665 | .009 |  |  |
| Roy's largest root | .009 | .410a | 2.000 | 90.000 | .665 | .009 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 4.835 | .218 | 4.402 | 5.267 |
| 2 | 4.967 | .221 | 4.529 | 5.406 |
| 3 | 4.938 | .215 | 4.512 | 5.364 |
| 2 | 1 | 5.645 | .298 | 5.053 | 6.236 |
| 2 | 5.770 | .293 | 5.187 | 6.352 |
| 3 | 5.771 | .314 | 5.147 | 6.394 |

**Profile Plots**



GLM C4\_LCLF1\_Initial C4\_LCLF1\_Ref C4\_MCMF1\_Initial C4\_MCMF1\_Ref C4\_HCHF1\_Initial C4\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:22:25 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM C4\_LCLF1\_Initial C4\_LCLF1\_Ref C4\_MCMF1\_Initial C4\_MCMF1\_Ref C4\_HCHF1\_Initial C4\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.22 |
| Elapsed Time | 00:00:00.20 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | C4\_LCLF1\_Initial |
| 2 | C4\_LCLF1\_Ref |
| 2 | 1 | C4\_MCMF1\_Initial |
| 2 | C4\_MCMF1\_Ref |
| 3 | 1 | C4\_HCHF1\_Initial |
| 2 | C4\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| C4\_LCLF1\_Initial | 5.3456 | 2.68969 | 90 |
| C4\_LCLF1\_Ref | 6.1656 | 3.33865 | 90 |
| C4\_MCMF1\_Initial | 5.0244 | 2.43723 | 90 |
| C4\_MCMF1\_Ref | 5.5478 | 2.71186 | 90 |
| C4\_HCHF1\_Initial | 4.9911 | 2.57109 | 90 |
| C4\_HCHF1\_Ref | 5.8856 | 3.50003 | 90 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .052 | 2.428b | 2.000 | 88.000 |  |  |  |  |
| Wilks' Lambda | .948 | 2.428b | 2.000 | 88.000 |  |  |  |  |
| Hotelling's Trace | .055 | 2.428b | 2.000 | 88.000 |  |  |  |  |
| Roy's Largest Root | .055 | 2.428b | 2.000 | 88.000 |  |  |  |  |
| Timing | Pillai's Trace | .224 | 25.716b | 1.000 | 89.000 |  |  |  |  |
| Wilks' Lambda | .776 | 25.716b | 1.000 | 89.000 |  |  |  |  |
| Hotelling's Trace | .289 | 25.716b | 1.000 | 89.000 |  |  |  |  |
| Roy's Largest Root | .289 | 25.716b | 1.000 | 89.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .019 | .864b | 2.000 | 88.000 |  |  |  |  |
| Wilks' Lambda | .981 | .864b | 2.000 | 88.000 |  |  |  |  |
| Hotelling's Trace | .020 | .864b | 2.000 | 88.000 |  |  |  |  |
| Roy's Largest Root | .020 | .864b | 2.000 | 88.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .994 | .526 | 2 | .769 | .994 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .992 | .675 | 2 | .713 | .992 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 20.651 | 2 | 10.325 |  |  |  |  |  |
| Greenhouse-Geisser | 20.651 | 1.988 | 10.387 |  |  |  |  |  |
| Huynh-Feldt | 20.651 | 2.000 | 10.325 |  |  |  |  |  |
| Lower-bound | 20.651 | 1.000 | 20.651 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 708.213 | 178 | 3.979 |  |  |  |  |  |
| Greenhouse-Geisser | 708.213 | 176.945 | 4.002 |  |  |  |  |  |
| Huynh-Feldt | 708.213 | 178.000 | 3.979 |  |  |  |  |  |
| Lower-bound | 708.213 | 89.000 | 7.957 |  |  |  |  |  |
| Timing | Sphericity Assumed | 75.115 | 1 | 75.115 |  |  |  |  |  |
| Greenhouse-Geisser | 75.115 | 1.000 | 75.115 |  |  |  |  |  |
| Huynh-Feldt | 75.115 | 1.000 | 75.115 |  |  |  |  |  |
| Lower-bound | 75.115 | 1.000 | 75.115 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 259.959 | 89 | 2.921 |  |  |  |  |  |
| Greenhouse-Geisser | 259.959 | 89.000 | 2.921 |  |  |  |  |  |
| Huynh-Feldt | 259.959 | 89.000 | 2.921 |  |  |  |  |  |
| Lower-bound | 259.959 | 89.000 | 2.921 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 3.469 | 2 | 1.735 |  |  |  |  |  |
| Greenhouse-Geisser | 3.469 | 1.985 | 1.748 |  |  |  |  |  |
| Huynh-Feldt | 3.469 | 2.000 | 1.735 |  |  |  |  |  |
| Lower-bound | 3.469 | 1.000 | 3.469 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 382.348 | 178 | 2.148 |  |  |  |  |  |
| Greenhouse-Geisser | 382.348 | 176.649 | 2.164 |  |  |  |  |  |
| Huynh-Feldt | 382.348 | 178.000 | 2.148 |  |  |  |  |  |
| Lower-bound | 382.348 | 89.000 | 4.296 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 9.057 | 1 | 9.057 |  |  |  |  |  |
| Quadratic |  | 11.594 | 1 | 11.594 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 368.811 | 89 | 4.144 |  |  |  |  |  |
| Quadratic |  | 339.402 | 89 | 3.814 |  |  |  |  |  |
| Timing |  | Linear | 75.115 | 1 | 75.115 |  |  |  |  |  |
| Error(Timing) |  | Linear | 259.959 | 89 | 2.921 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | .125 | 1 | .125 |  |  |  |  |  |
| Quadratic | Linear | 3.344 | 1 | 3.344 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 207.593 | 89 | 2.333 |  |  |  |  |  |
| Quadratic | Linear | 174.755 | 89 | 1.964 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 16295.424 | 1 | 16295.424 | 460.823 | .000 | .838 |  |  |
| Error | 3147.183 | 89 | 35.362 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| C4\_LCLF1\_Initial | Intercept | 5.346 | .284 | 18.854 | .000 | 4.782 |  |  |  |  |
| C4\_LCLF1\_Ref | Intercept | 6.166 | .352 | 17.520 | .000 | 5.466 |  |  |  |  |
| C4\_MCMF1\_Initial | Intercept | 5.024 | .257 | 19.558 | .000 | 4.514 |  |  |  |  |
| C4\_MCMF1\_Ref | Intercept | 5.548 | .286 | 19.408 | .000 | 4.980 |  |  |  |  |
| C4\_HCHF1\_Initial | Intercept | 4.991 | .271 | 18.416 | .000 | 4.453 |  |  |  |  |
| C4\_HCHF1\_Ref | Intercept | 5.886 | .369 | 15.953 | .000 | 5.152 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 5.493 | .256 | 4.985 | 6.002 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 5.120 | .231 | 4.662 | 5.579 |
| 2 | 5.866 | .298 | 5.275 | 6.457 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.746\* | .147 | .000 | -1.038 | -.454 |
| 2 | 1 | .746\* | .147 | .000 | .454 | 1.038 |

|  |
| --- |
| 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 | .224 | 25.716a | 1.000 | 89.000 | .000 | .224 |  |  |
| Wilks' lambda | .776 | 25.716a | 1.000 | 89.000 | .000 | .224 |  |  |
| Hotelling's trace | .289 | 25.716a | 1.000 | 89.000 | .000 | .224 |  |  |
| Roy's largest root | .289 | 25.716a | 1.000 | 89.000 | .000 | .224 |  |  |

**3. Comp\_Flu**

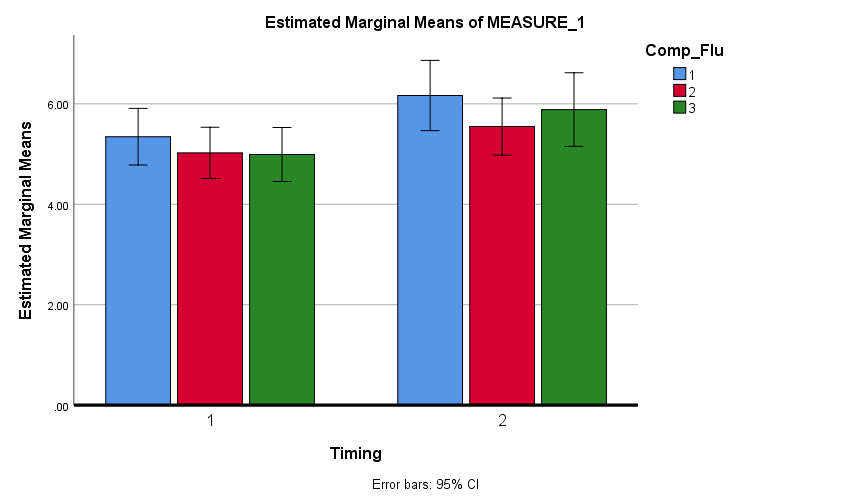
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 5.756 | .297 | 5.166 | 6.345 |
| 2 | 5.286 | .252 | 4.786 | 5.786 |
| 3 | 5.438 | .299 | 4.844 | 6.032 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .469 | .214 | .093 | -.053 |  |
| 3 | .317 | .215 | .429 | -.206 |  |
| 2 | 1 | -.469 | .214 | .093 | -.992 |  |
| 3 | -.152 | .202 | 1.000 | -.645 |  |
| 3 | 1 | -.317 | .215 | .429 | -.841 |  |
| 2 | .152 | .202 | 1.000 | -.341 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .052 | 2.428a | 2.000 | 88.000 | .094 | .052 |  |  |
| Wilks' lambda | .948 | 2.428a | 2.000 | 88.000 | .094 | .052 |  |  |
| Hotelling's trace | .055 | 2.428a | 2.000 | 88.000 | .094 | .052 |  |  |
| Roy's largest root | .055 | 2.428a | 2.000 | 88.000 | .094 | .052 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 5.346 | .284 | 4.782 | 5.909 |
| 2 | 5.024 | .257 | 4.514 | 5.535 |
| 3 | 4.991 | .271 | 4.453 | 5.530 |
| 2 | 1 | 6.166 | .352 | 5.466 | 6.865 |
| 2 | 5.548 | .286 | 4.980 | 6.116 |
| 3 | 5.886 | .369 | 5.152 | 6.619 |

**Profile Plots**



GLM T4\_LCLF1\_Initial T4\_LCLF1\_Ref T4\_MCMF1\_Initial T4\_MCMF1\_Ref T4\_HCHF1\_Initial T4\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:27:43 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM T4\_LCLF1\_Initial T4\_LCLF1\_Ref T4\_MCMF1\_Initial T4\_MCMF1\_Ref T4\_HCHF1\_Initial T4\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.22 |
| Elapsed Time | 00:00:00.21 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | T4\_LCLF1\_Initial |
| 2 | T4\_LCLF1\_Ref |
| 2 | 1 | T4\_MCMF1\_Initial |
| 2 | T4\_MCMF1\_Ref |
| 3 | 1 | T4\_HCHF1\_Initial |
| 2 | T4\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| T4\_LCLF1\_Initial | 3.8075 | 1.75594 | 93 |
| T4\_LCLF1\_Ref | 3.7151 | 1.60400 | 93 |
| T4\_MCMF1\_Initial | 3.4473 | 1.40871 | 93 |
| T4\_MCMF1\_Ref | 3.7376 | 1.57686 | 93 |
| T4\_HCHF1\_Initial | 3.4505 | 1.42620 | 93 |
| T4\_HCHF1\_Ref | 3.8108 | 1.83632 | 93 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .020 | .930b | 2.000 | 91.000 |  |  |  |  |
| Wilks' Lambda | .980 | .930b | 2.000 | 91.000 |  |  |  |  |
| Hotelling's Trace | .020 | .930b | 2.000 | 91.000 |  |  |  |  |
| Roy's Largest Root | .020 | .930b | 2.000 | 91.000 |  |  |  |  |
| Timing | Pillai's Trace | .056 | 5.428b | 1.000 | 92.000 |  |  |  |  |
| Wilks' Lambda | .944 | 5.428b | 1.000 | 92.000 |  |  |  |  |
| Hotelling's Trace | .059 | 5.428b | 1.000 | 92.000 |  |  |  |  |
| Roy's Largest Root | .059 | 5.428b | 1.000 | 92.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .077 | 3.814b | 2.000 | 91.000 |  |  |  |  |
| Wilks' Lambda | .923 | 3.814b | 2.000 | 91.000 |  |  |  |  |
| Hotelling's Trace | .084 | 3.814b | 2.000 | 91.000 |  |  |  |  |
| Roy's Largest Root | .084 | 3.814b | 2.000 | 91.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .933 | 6.290 | 2 | .043 | .937 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .988 | 1.070 | 2 | .586 | .988 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 2.916 | 2 | 1.458 |  |  |  |  |  |
| Greenhouse-Geisser | 2.916 | 1.875 | 1.555 |  |  |  |  |  |
| Huynh-Feldt | 2.916 | 1.912 | 1.525 |  |  |  |  |  |
| Lower-bound | 2.916 | 1.000 | 2.916 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 233.698 | 184 | 1.270 |  |  |  |  |  |
| Greenhouse-Geisser | 233.698 | 172.480 | 1.355 |  |  |  |  |  |
| Huynh-Feldt | 233.698 | 175.941 | 1.328 |  |  |  |  |  |
| Lower-bound | 233.698 | 92.000 | 2.540 |  |  |  |  |  |
| Timing | Sphericity Assumed | 4.827 | 1 | 4.827 |  |  |  |  |  |
| Greenhouse-Geisser | 4.827 | 1.000 | 4.827 |  |  |  |  |  |
| Huynh-Feldt | 4.827 | 1.000 | 4.827 |  |  |  |  |  |
| Lower-bound | 4.827 | 1.000 | 4.827 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 81.811 | 92 | .889 |  |  |  |  |  |
| Greenhouse-Geisser | 81.811 | 92.000 | .889 |  |  |  |  |  |
| Huynh-Feldt | 81.811 | 92.000 | .889 |  |  |  |  |  |
| Lower-bound | 81.811 | 92.000 | .889 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 5.523 | 2 | 2.762 |  |  |  |  |  |
| Greenhouse-Geisser | 5.523 | 1.977 | 2.794 |  |  |  |  |  |
| Huynh-Feldt | 5.523 | 2.000 | 2.762 |  |  |  |  |  |
| Lower-bound | 5.523 | 1.000 | 5.523 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 142.563 | 184 | .775 |  |  |  |  |  |
| Greenhouse-Geisser | 142.563 | 181.874 | .784 |  |  |  |  |  |
| Huynh-Feldt | 142.563 | 184.000 | .775 |  |  |  |  |  |
| Lower-bound | 142.563 | 92.000 | 1.550 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 1.587 | 1 | 1.587 |  |  |  |  |  |
| Quadratic |  | 1.328 | 1 | 1.328 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 131.775 | 92 | 1.432 |  |  |  |  |  |
| Quadratic |  | 101.923 | 92 | 1.108 |  |  |  |  |  |
| Timing |  | Linear | 4.827 | 1 | 4.827 |  |  |  |  |  |
| Error(Timing) |  | Linear | 81.811 | 92 | .889 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 4.765 | 1 | 4.765 |  |  |  |  |  |
| Quadratic | Linear | .759 | 1 | .759 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 71.778 | 92 | .780 |  |  |  |  |  |
| Quadratic | Linear | 70.785 | 92 | .769 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 7480.748 | 1 | 7480.748 | 708.796 | .000 | .885 |  |  |
| Error | 970.983 | 92 | 10.554 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| T4\_LCLF1\_Initial | Intercept | 3.808 | .182 | 20.911 | .000 | 3.446 |  |  |  |  |
| T4\_LCLF1\_Ref | Intercept | 3.715 | .166 | 22.336 | .000 | 3.385 |  |  |  |  |
| T4\_MCMF1\_Initial | Intercept | 3.447 | .146 | 23.599 | .000 | 3.157 |  |  |  |  |
| T4\_MCMF1\_Ref | Intercept | 3.738 | .164 | 22.858 | .000 | 3.413 |  |  |  |  |
| T4\_HCHF1\_Initial | Intercept | 3.451 | .148 | 23.332 | .000 | 3.157 |  |  |  |  |
| T4\_HCHF1\_Ref | Intercept | 3.811 | .190 | 20.013 | .000 | 3.433 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 3.661 | .138 | 3.388 | 3.935 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.568 | .137 | 3.297 | 3.840 |
| 2 | 3.754 | .149 | 3.458 | 4.051 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.186\* | .080 | .022 | -.345 | -.027 |
| 2 | 1 | .186\* | .080 | .022 | .027 | .345 |

|  |
| --- |
| 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 | .056 | 5.428a | 1.000 | 92.000 | .022 | .056 |  |  |
| Wilks' lambda | .944 | 5.428a | 1.000 | 92.000 | .022 | .056 |  |  |
| Hotelling's trace | .059 | 5.428a | 1.000 | 92.000 | .022 | .056 |  |  |
| Roy's largest root | .059 | 5.428a | 1.000 | 92.000 | .022 | .056 |  |  |

**3. Comp\_Flu**

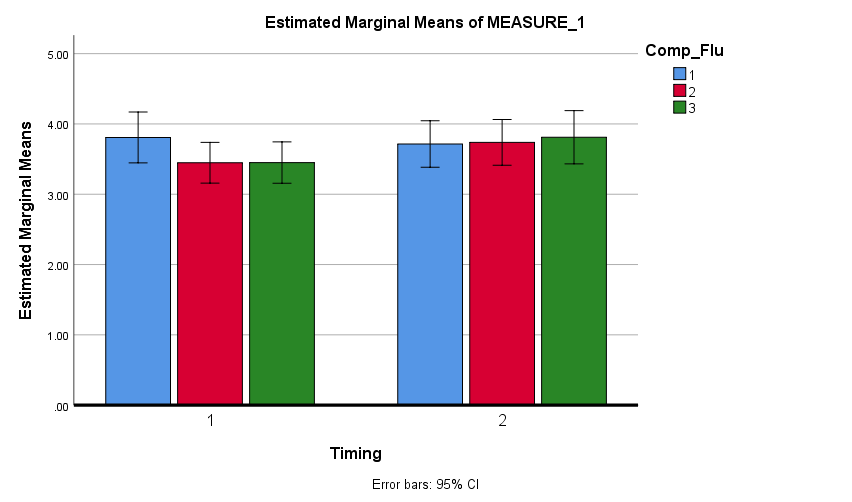
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.761 | .162 | 3.440 | 4.082 |
| 2 | 3.592 | .143 | 3.308 | 3.877 |
| 3 | 3.631 | .154 | 3.325 | 3.937 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .169 | .124 | .533 | -.134 |  |
| 3 | .131 | .124 | .886 | -.172 |  |
| 2 | 1 | -.169 | .124 | .533 | -.472 |  |
| 3 | -.038 | .101 | 1.000 | -.284 |  |
| 3 | 1 | -.131 | .124 | .886 | -.433 |  |
| 2 | .038 | .101 | 1.000 | -.207 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .020 | .930a | 2.000 | 91.000 | .398 | .020 |  |  |
| Wilks' lambda | .980 | .930a | 2.000 | 91.000 | .398 | .020 |  |  |
| Hotelling's trace | .020 | .930a | 2.000 | 91.000 | .398 | .020 |  |  |
| Roy's largest root | .020 | .930a | 2.000 | 91.000 | .398 | .020 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 3.808 | .182 | 3.446 | 4.169 |
| 2 | 3.447 | .146 | 3.157 | 3.737 |
| 3 | 3.451 | .148 | 3.157 | 3.744 |
| 2 | 1 | 3.715 | .166 | 3.385 | 4.045 |
| 2 | 3.738 | .164 | 3.413 | 4.062 |
| 3 | 3.811 | .190 | 3.433 | 4.189 |

**Profile Plots**



GLM T5\_LCLF1\_Initial T5\_LCLF1\_Ref T5\_MCMF1\_Initial T5\_MCMF1\_Ref T5\_HCHF1\_Initial T5\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:31:28 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM T5\_LCLF1\_Initial T5\_LCLF1\_Ref T5\_MCMF1\_Initial T5\_MCMF1\_Ref T5\_HCHF1\_Initial T5\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.20 |
| Elapsed Time | 00:00:00.20 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | T5\_LCLF1\_Initial |
| 2 | T5\_LCLF1\_Ref |
| 2 | 1 | T5\_MCMF1\_Initial |
| 2 | T5\_MCMF1\_Ref |
| 3 | 1 | T5\_HCHF1\_Initial |
| 2 | T5\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| T5\_LCLF1\_Initial | 2.6341 | 1.30443 | 82 |
| T5\_LCLF1\_Ref | 3.0537 | 1.66750 | 82 |
| T5\_MCMF1\_Initial | 2.4707 | 1.04922 | 82 |
| T5\_MCMF1\_Ref | 3.0024 | 1.29919 | 82 |
| T5\_HCHF1\_Initial | 2.3841 | 1.11935 | 82 |
| T5\_HCHF1\_Ref | 2.9524 | 1.42545 | 82 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .045 | 1.902b | 2.000 | 80.000 |  |  |  |  |
| Wilks' Lambda | .955 | 1.902b | 2.000 | 80.000 |  |  |  |  |
| Hotelling's Trace | .048 | 1.902b | 2.000 | 80.000 |  |  |  |  |
| Roy's Largest Root | .048 | 1.902b | 2.000 | 80.000 |  |  |  |  |
| Timing | Pillai's Trace | .304 | 35.456b | 1.000 | 81.000 |  |  |  |  |
| Wilks' Lambda | .696 | 35.456b | 1.000 | 81.000 |  |  |  |  |
| Hotelling's Trace | .438 | 35.456b | 1.000 | 81.000 |  |  |  |  |
| Roy's Largest Root | .438 | 35.456b | 1.000 | 81.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .009 | .353b | 2.000 | 80.000 |  |  |  |  |
| Wilks' Lambda | .991 | .353b | 2.000 | 80.000 |  |  |  |  |
| Hotelling's Trace | .009 | .353b | 2.000 | 80.000 |  |  |  |  |
| Roy's Largest Root | .009 | .353b | 2.000 | 80.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .974 | 2.144 | 2 | .342 | .974 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .911 | 7.480 | 2 | .024 | .918 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 2.570 | 2 | 1.285 |  |  |  |  |  |
| Greenhouse-Geisser | 2.570 | 1.948 | 1.319 |  |  |  |  |  |
| Huynh-Feldt | 2.570 | 1.996 | 1.288 |  |  |  |  |  |
| Lower-bound | 2.570 | 1.000 | 2.570 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 120.993 | 162 | .747 |  |  |  |  |  |
| Greenhouse-Geisser | 120.993 | 157.827 | .767 |  |  |  |  |  |
| Huynh-Feldt | 120.993 | 161.664 | .748 |  |  |  |  |  |
| Lower-bound | 120.993 | 81.000 | 1.494 |  |  |  |  |  |
| Timing | Sphericity Assumed | 31.555 | 1 | 31.555 |  |  |  |  |  |
| Greenhouse-Geisser | 31.555 | 1.000 | 31.555 |  |  |  |  |  |
| Huynh-Feldt | 31.555 | 1.000 | 31.555 |  |  |  |  |  |
| Lower-bound | 31.555 | 1.000 | 31.555 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 72.088 | 81 | .890 |  |  |  |  |  |
| Greenhouse-Geisser | 72.088 | 81.000 | .890 |  |  |  |  |  |
| Huynh-Feldt | 72.088 | 81.000 | .890 |  |  |  |  |  |
| Lower-bound | 72.088 | 81.000 | .890 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | .493 | 2 | .246 |  |  |  |  |  |
| Greenhouse-Geisser | .493 | 1.836 | .268 |  |  |  |  |  |
| Huynh-Feldt | .493 | 1.877 | .263 |  |  |  |  |  |
| Lower-bound | .493 | 1.000 | .493 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 94.044 | 162 | .581 |  |  |  |  |  |
| Greenhouse-Geisser | 94.044 | 148.725 | .632 |  |  |  |  |  |
| Huynh-Feldt | 94.044 | 152.007 | .619 |  |  |  |  |  |
| Lower-bound | 94.044 | 81.000 | 1.161 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 2.529 | 1 | 2.529 |  |  |  |  |  |
| Quadratic |  | .042 | 1 | .042 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 53.171 | 81 | .656 |  |  |  |  |  |
| Quadratic |  | 67.822 | 81 | .837 |  |  |  |  |  |
| Timing |  | Linear | 31.555 | 1 | 31.555 |  |  |  |  |  |
| Error(Timing) |  | Linear | 72.088 | 81 | .890 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | .454 | 1 | .454 |  |  |  |  |  |
| Quadratic | Linear | .039 | 1 | .039 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 60.986 | 81 | .753 |  |  |  |  |  |
| Quadratic | Linear | 33.058 | 81 | .408 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 3719.650 | 1 | 3719.650 | 530.549 | .000 | .868 |  |  |
| Error | 567.887 | 81 | 7.011 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| T5\_LCLF1\_Initial | Intercept | 2.634 | .144 | 18.286 | .000 | 2.348 |  |  |  |  |
| T5\_LCLF1\_Ref | Intercept | 3.054 | .184 | 16.583 | .000 | 2.687 |  |  |  |  |
| T5\_MCMF1\_Initial | Intercept | 2.471 | .116 | 21.324 | .000 | 2.240 |  |  |  |  |
| T5\_MCMF1\_Ref | Intercept | 3.002 | .143 | 20.927 | .000 | 2.717 |  |  |  |  |
| T5\_HCHF1\_Initial | Intercept | 2.384 | .124 | 19.287 | .000 | 2.138 |  |  |  |  |
| T5\_HCHF1\_Ref | Intercept | 2.952 | .157 | 18.756 | .000 | 2.639 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 2.750 | .119 | 2.512 | 2.987 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 2.496 | .109 | 2.280 | 2.713 |
| 2 | 3.003 | .142 | 2.719 | 3.286 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.507\* | .085 | .000 | -.676 | -.337 |
| 2 | 1 | .507\* | .085 | .000 | .337 | .676 |

|  |
| --- |
| 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 | .304 | 35.456a | 1.000 | 81.000 | .000 | .304 |  |  |
| Wilks' lambda | .696 | 35.456a | 1.000 | 81.000 | .000 | .304 |  |  |
| Hotelling's trace | .438 | 35.456a | 1.000 | 81.000 | .000 | .304 |  |  |
| Roy's largest root | .438 | 35.456a | 1.000 | 81.000 | .000 | .304 |  |  |

**3. Comp\_Flu**

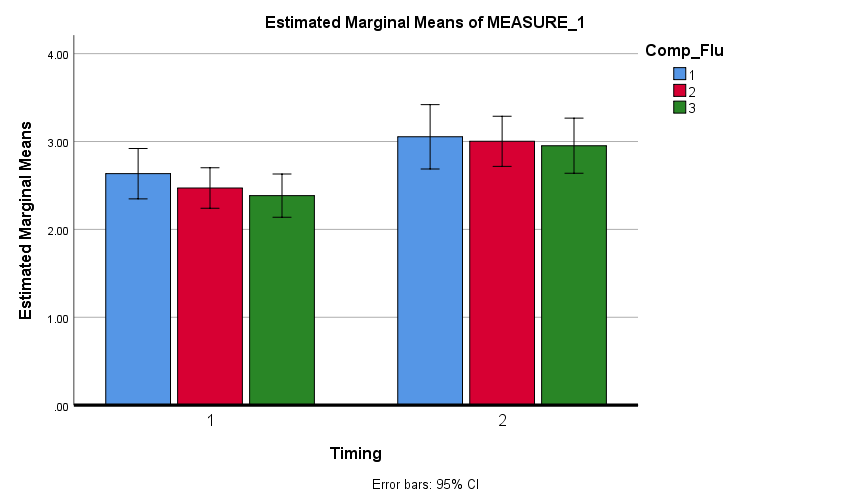
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 2.844 | .149 | 2.548 | 3.140 |
| 2 | 2.737 | .118 | 2.502 | 2.971 |
| 3 | 2.668 | .126 | 2.418 | 2.918 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .107 | .103 | .895 | -.143 |  |
| 3 | .176 | .089 | .159 | -.043 |  |
| 2 | 1 | -.107 | .103 | .895 | -.358 |  |
| 3 | .068 | .094 | 1.000 | -.161 |  |
| 3 | 1 | -.176 | .089 | .159 | -.394 |  |
| 2 | -.068 | .094 | 1.000 | -.298 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .045 | 1.902a | 2.000 | 80.000 | .156 | .045 |  |  |
| Wilks' lambda | .955 | 1.902a | 2.000 | 80.000 | .156 | .045 |  |  |
| Hotelling's trace | .048 | 1.902a | 2.000 | 80.000 | .156 | .045 |  |  |
| Roy's largest root | .048 | 1.902a | 2.000 | 80.000 | .156 | .045 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 2.634 | .144 | 2.348 | 2.921 |
| 2 | 2.471 | .116 | 2.240 | 2.701 |
| 3 | 2.384 | .124 | 2.138 | 2.630 |
| 2 | 1 | 3.054 | .184 | 2.687 | 3.420 |
| 2 | 3.002 | .143 | 2.717 | 3.288 |
| 3 | 2.952 | .157 | 2.639 | 3.266 |

**Profile Plots**



GLM P3\_LCLF1\_Initial P3\_LCLF1\_Ref P3\_MCMF1\_Initial P3\_MCMF1\_Ref P3\_HCHF1\_Initial P3\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:35:45 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM P3\_LCLF1\_Initial P3\_LCLF1\_Ref P3\_MCMF1\_Initial P3\_MCMF1\_Ref P3\_HCHF1\_Initial P3\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.25 |
| Elapsed Time | 00:00:00.24 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | P3\_LCLF1\_Initial |
| 2 | P3\_LCLF1\_Ref |
| 2 | 1 | P3\_MCMF1\_Initial |
| 2 | P3\_MCMF1\_Ref |
| 3 | 1 | P3\_HCHF1\_Initial |
| 2 | P3\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| P3\_LCLF1\_Initial | 3.5709 | 1.62829 | 79 |
| P3\_LCLF1\_Ref | 3.6987 | 1.76769 | 79 |
| P3\_MCMF1\_Initial | 3.4975 | 1.31158 | 79 |
| P3\_MCMF1\_Ref | 3.6367 | 1.24398 | 79 |
| P3\_HCHF1\_Initial | 3.3962 | 1.23542 | 79 |
| P3\_HCHF1\_Ref | 4.1215 | 2.57825 | 79 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .019 | .753b | 2.000 | 77.000 |  |  |  |  |
| Wilks' Lambda | .981 | .753b | 2.000 | 77.000 |  |  |  |  |
| Hotelling's Trace | .020 | .753b | 2.000 | 77.000 |  |  |  |  |
| Roy's Largest Root | .020 | .753b | 2.000 | 77.000 |  |  |  |  |
| Timing | Pillai's Trace | .114 | 10.036b | 1.000 | 78.000 |  |  |  |  |
| Wilks' Lambda | .886 | 10.036b | 1.000 | 78.000 |  |  |  |  |
| Hotelling's Trace | .129 | 10.036b | 1.000 | 78.000 |  |  |  |  |
| Roy's Largest Root | .129 | 10.036b | 1.000 | 78.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .064 | 2.615b | 2.000 | 77.000 |  |  |  |  |
| Wilks' Lambda | .936 | 2.615b | 2.000 | 77.000 |  |  |  |  |
| Hotelling's Trace | .068 | 2.615b | 2.000 | 77.000 |  |  |  |  |
| Roy's Largest Root | .068 | 2.615b | 2.000 | 77.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .921 | 6.337 | 2 | .042 | .927 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .876 | 10.155 | 2 | .006 | .890 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 2.989 | 2 | 1.494 |  |  |  |  |  |
| Greenhouse-Geisser | 2.989 | 1.854 | 1.613 |  |  |  |  |  |
| Huynh-Feldt | 2.989 | 1.897 | 1.576 |  |  |  |  |  |
| Lower-bound | 2.989 | 1.000 | 2.989 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 239.614 | 156 | 1.536 |  |  |  |  |  |
| Greenhouse-Geisser | 239.614 | 144.577 | 1.657 |  |  |  |  |  |
| Huynh-Feldt | 239.614 | 147.946 | 1.620 |  |  |  |  |  |
| Lower-bound | 239.614 | 78.000 | 3.072 |  |  |  |  |  |
| Timing | Sphericity Assumed | 12.967 | 1 | 12.967 |  |  |  |  |  |
| Greenhouse-Geisser | 12.967 | 1.000 | 12.967 |  |  |  |  |  |
| Huynh-Feldt | 12.967 | 1.000 | 12.967 |  |  |  |  |  |
| Lower-bound | 12.967 | 1.000 | 12.967 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 100.779 | 78 | 1.292 |  |  |  |  |  |
| Greenhouse-Geisser | 100.779 | 78.000 | 1.292 |  |  |  |  |  |
| Huynh-Feldt | 100.779 | 78.000 | 1.292 |  |  |  |  |  |
| Lower-bound | 100.779 | 78.000 | 1.292 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 9.224 | 2 | 4.612 |  |  |  |  |  |
| Greenhouse-Geisser | 9.224 | 1.780 | 5.182 |  |  |  |  |  |
| Huynh-Feldt | 9.224 | 1.819 | 5.072 |  |  |  |  |  |
| Lower-bound | 9.224 | 1.000 | 9.224 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 212.399 | 156 | 1.362 |  |  |  |  |  |
| Greenhouse-Geisser | 212.399 | 138.845 | 1.530 |  |  |  |  |  |
| Huynh-Feldt | 212.399 | 141.863 | 1.497 |  |  |  |  |  |
| Lower-bound | 212.399 | 78.000 | 2.723 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 1.216 | 1 | 1.216 |  |  |  |  |  |
| Quadratic |  | 1.773 | 1 | 1.773 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 118.789 | 78 | 1.523 |  |  |  |  |  |
| Quadratic |  | 120.825 | 78 | 1.549 |  |  |  |  |  |
| Timing |  | Linear | 12.967 | 1 | 12.967 |  |  |  |  |  |
| Error(Timing) |  | Linear | 100.779 | 78 | 1.292 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 7.050 | 1 | 7.050 |  |  |  |  |  |
| Quadratic | Linear | 2.174 | 1 | 2.174 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 137.985 | 78 | 1.769 |  |  |  |  |  |
| Quadratic | Linear | 74.414 | 78 | .954 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 6327.281 | 1 | 6327.281 | 624.588 | .000 | .889 |  |  |
| Error | 790.166 | 78 | 10.130 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| P3\_LCLF1\_Initial | Intercept | 3.571 | .183 | 19.492 | .000 | 3.206 |  |  |  |  |
| P3\_LCLF1\_Ref | Intercept | 3.699 | .199 | 18.598 | .000 | 3.303 |  |  |  |  |
| P3\_MCMF1\_Initial | Intercept | 3.497 | .148 | 23.701 | .000 | 3.204 |  |  |  |  |
| P3\_MCMF1\_Ref | Intercept | 3.637 | .140 | 25.984 | .000 | 3.358 |  |  |  |  |
| P3\_HCHF1\_Initial | Intercept | 3.396 | .139 | 24.434 | .000 | 3.119 |  |  |  |  |
| P3\_HCHF1\_Ref | Intercept | 4.122 | .290 | 14.208 | .000 | 3.544 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 3.654 | .146 | 3.363 | 3.945 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.488 | .127 | 3.235 | 3.742 |
| 2 | 3.819 | .179 | 3.463 | 4.175 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.331\* | .104 | .002 | -.539 | -.123 |
| 2 | 1 | .331\* | .104 | .002 | .123 | .539 |

|  |
| --- |
| 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 | .114 | 10.036a | 1.000 | 78.000 | .002 | .114 |  |  |
| Wilks' lambda | .886 | 10.036a | 1.000 | 78.000 | .002 | .114 |  |  |
| Hotelling's trace | .129 | 10.036a | 1.000 | 78.000 | .002 | .114 |  |  |
| Roy's largest root | .129 | 10.036a | 1.000 | 78.000 | .002 | .114 |  |  |

**3. Comp\_Flu**

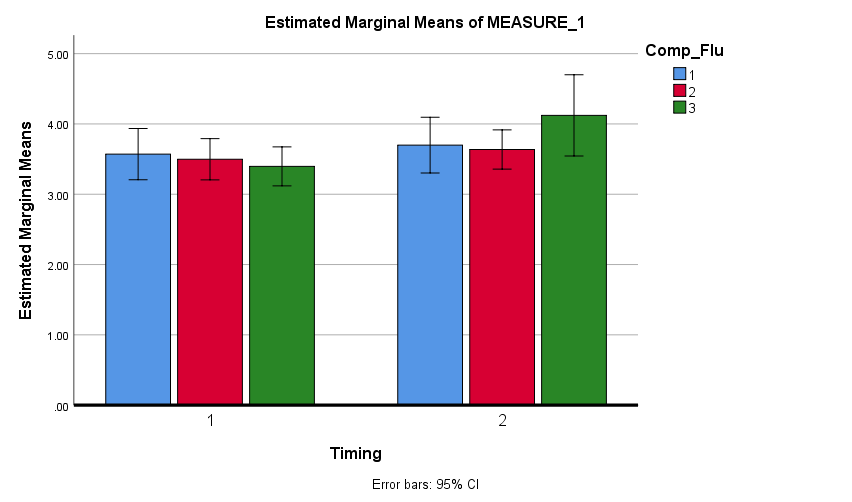
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.635 | .170 | 3.297 | 3.973 |
| 2 | 3.567 | .130 | 3.308 | 3.826 |
| 3 | 3.759 | .194 | 3.372 | 4.146 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .068 | .122 | 1.000 | -.230 |  |
| 3 | -.124 | .139 | 1.000 | -.464 |  |
| 2 | 1 | -.068 | .122 | 1.000 | -.365 |  |
| 3 | -.192 | .156 | .666 | -.573 |  |
| 3 | 1 | .124 | .139 | 1.000 | -.216 |  |
| 2 | .192 | .156 | .666 | -.189 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .019 | .753a | 2.000 | 77.000 | .474 | .019 |  |  |
| Wilks' lambda | .981 | .753a | 2.000 | 77.000 | .474 | .019 |  |  |
| Hotelling's trace | .020 | .753a | 2.000 | 77.000 | .474 | .019 |  |  |
| Roy's largest root | .020 | .753a | 2.000 | 77.000 | .474 | .019 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 3.571 | .183 | 3.206 | 3.936 |
| 2 | 3.497 | .148 | 3.204 | 3.791 |
| 3 | 3.396 | .139 | 3.119 | 3.673 |
| 2 | 1 | 3.699 | .199 | 3.303 | 4.095 |
| 2 | 3.637 | .140 | 3.358 | 3.915 |
| 3 | 4.122 | .290 | 3.544 | 4.699 |

**Profile Plots**



GLM PZ\_LCLF1\_Initial PZ\_LCLF1\_Ref PZ\_MCMF1\_Initial PZ\_MCMF1\_Ref PZ\_HCHF1\_Initial PZ\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:39:49 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM PZ\_LCLF1\_Initial PZ\_LCLF1\_Ref PZ\_MCMF1\_Initial PZ\_MCMF1\_Ref PZ\_HCHF1\_Initial PZ\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.23 |
| Elapsed Time | 00:00:00.21 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | PZ\_LCLF1\_Initial |
| 2 | PZ\_LCLF1\_Ref |
| 2 | 1 | PZ\_MCMF1\_Initial |
| 2 | PZ\_MCMF1\_Ref |
| 3 | 1 | PZ\_HCHF1\_Initial |
| 2 | PZ\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| PZ\_LCLF1\_Initial | 4.4000 | 1.69860 | 81 |
| PZ\_LCLF1\_Ref | 4.7679 | 2.27106 | 81 |
| PZ\_MCMF1\_Initial | 4.5025 | 1.79645 | 81 |
| PZ\_MCMF1\_Ref | 4.5407 | 1.55634 | 81 |
| PZ\_HCHF1\_Initial | 4.2025 | 1.31805 | 81 |
| PZ\_HCHF1\_Ref | 4.8852 | 2.49420 | 81 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .002 | .075b | 2.000 | 79.000 |  |  |  |  |
| Wilks' Lambda | .998 | .075b | 2.000 | 79.000 |  |  |  |  |
| Hotelling's Trace | .002 | .075b | 2.000 | 79.000 |  |  |  |  |
| Roy's Largest Root | .002 | .075b | 2.000 | 79.000 |  |  |  |  |
| Timing | Pillai's Trace | .084 | 7.329b | 1.000 | 80.000 |  |  |  |  |
| Wilks' Lambda | .916 | 7.329b | 1.000 | 80.000 |  |  |  |  |
| Hotelling's Trace | .092 | 7.329b | 1.000 | 80.000 |  |  |  |  |
| Roy's Largest Root | .092 | 7.329b | 1.000 | 80.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .060 | 2.514b | 2.000 | 79.000 |  |  |  |  |
| Wilks' Lambda | .940 | 2.514b | 2.000 | 79.000 |  |  |  |  |
| Hotelling's Trace | .064 | 2.514b | 2.000 | 79.000 |  |  |  |  |
| Roy's Largest Root | .064 | 2.514b | 2.000 | 79.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .988 | .971 | 2 | .615 | .988 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .980 | 1.598 | 2 | .450 | .980 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | .323 | 2 | .162 |  |  |  |  |  |
| Greenhouse-Geisser | .323 | 1.976 | .164 |  |  |  |  |  |
| Huynh-Feldt | .323 | 2.000 | .162 |  |  |  |  |  |
| Lower-bound | .323 | 1.000 | .323 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 314.533 | 160 | 1.966 |  |  |  |  |  |
| Greenhouse-Geisser | 314.533 | 158.068 | 1.990 |  |  |  |  |  |
| Huynh-Feldt | 314.533 | 160.000 | 1.966 |  |  |  |  |  |
| Lower-bound | 314.533 | 80.000 | 3.932 |  |  |  |  |  |
| Timing | Sphericity Assumed | 16.007 | 1 | 16.007 |  |  |  |  |  |
| Greenhouse-Geisser | 16.007 | 1.000 | 16.007 |  |  |  |  |  |
| Huynh-Feldt | 16.007 | 1.000 | 16.007 |  |  |  |  |  |
| Lower-bound | 16.007 | 1.000 | 16.007 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 174.733 | 80 | 2.184 |  |  |  |  |  |
| Greenhouse-Geisser | 174.733 | 80.000 | 2.184 |  |  |  |  |  |
| Huynh-Feldt | 174.733 | 80.000 | 2.184 |  |  |  |  |  |
| Lower-bound | 174.733 | 80.000 | 2.184 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 8.411 | 2 | 4.206 |  |  |  |  |  |
| Greenhouse-Geisser | 8.411 | 1.961 | 4.290 |  |  |  |  |  |
| Huynh-Feldt | 8.411 | 2.000 | 4.206 |  |  |  |  |  |
| Lower-bound | 8.411 | 1.000 | 8.411 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 245.779 | 160 | 1.536 |  |  |  |  |  |
| Greenhouse-Geisser | 245.779 | 156.858 | 1.567 |  |  |  |  |  |
| Huynh-Feldt | 245.779 | 160.000 | 1.536 |  |  |  |  |  |
| Lower-bound | 245.779 | 80.000 | 3.072 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | .130 | 1 | .130 |  |  |  |  |  |
| Quadratic |  | .193 | 1 | .193 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 144.997 | 80 | 1.812 |  |  |  |  |  |
| Quadratic |  | 169.536 | 80 | 2.119 |  |  |  |  |  |
| Timing |  | Linear | 16.007 | 1 | 16.007 |  |  |  |  |  |
| Error(Timing) |  | Linear | 174.733 | 80 | 2.184 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 2.007 | 1 | 2.007 |  |  |  |  |  |
| Quadratic | Linear | 6.405 | 1 | 6.405 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 128.731 | 80 | 1.609 |  |  |  |  |  |
| Quadratic | Linear | 117.048 | 80 | 1.463 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 10060.505 | 1 | 10060.505 | 807.255 | .000 | .910 |  |  |
| Error | 997.008 | 80 | 12.463 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| PZ\_LCLF1\_Initial | Intercept | 4.400 | .189 | 23.313 | .000 | 4.024 |  |  |  |  |
| PZ\_LCLF1\_Ref | Intercept | 4.768 | .252 | 18.895 | .000 | 4.266 |  |  |  |  |
| PZ\_MCMF1\_Initial | Intercept | 4.502 | .200 | 22.557 | .000 | 4.105 |  |  |  |  |
| PZ\_MCMF1\_Ref | Intercept | 4.541 | .173 | 26.258 | .000 | 4.197 |  |  |  |  |
| PZ\_HCHF1\_Initial | Intercept | 4.202 | .146 | 28.696 | .000 | 3.911 |  |  |  |  |
| PZ\_HCHF1\_Ref | Intercept | 4.885 | .277 | 17.628 | .000 | 4.334 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 4.550 | .160 | 4.231 | 4.868 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.368 | .145 | 4.080 | 4.657 |
| 2 | 4.731 | .198 | 4.337 | 5.126 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.363\* | .134 | .008 | -.630 | -.096 |
| 2 | 1 | .363\* | .134 | .008 | .096 | .630 |

|  |
| --- |
| 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 | .084 | 7.329a | 1.000 | 80.000 | .008 | .084 |  |  |
| Wilks' lambda | .916 | 7.329a | 1.000 | 80.000 | .008 | .084 |  |  |
| Hotelling's trace | .092 | 7.329a | 1.000 | 80.000 | .008 | .084 |  |  |
| Roy's largest root | .092 | 7.329a | 1.000 | 80.000 | .008 | .084 |  |  |

**3. Comp\_Flu**

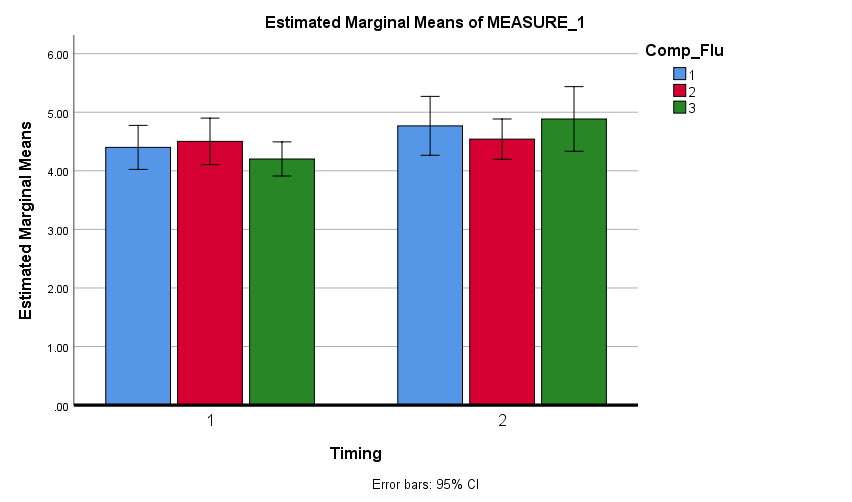
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.584 | .197 | 4.192 | 4.976 |
| 2 | 4.522 | .163 | 4.197 | 4.846 |
| 3 | 4.544 | .189 | 4.167 | 4.921 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .062 | .164 | 1.000 | -.338 |  |
| 3 | .040 | .150 | 1.000 | -.326 |  |
| 2 | 1 | -.062 | .164 | 1.000 | -.463 |  |
| 3 | -.022 | .154 | 1.000 | -.398 |  |
| 3 | 1 | -.040 | .150 | 1.000 | -.406 |  |
| 2 | .022 | .154 | 1.000 | -.353 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .002 | .075a | 2.000 | 79.000 | .928 | .002 |  |  |
| Wilks' lambda | .998 | .075a | 2.000 | 79.000 | .928 | .002 |  |  |
| Hotelling's trace | .002 | .075a | 2.000 | 79.000 | .928 | .002 |  |  |
| Roy's largest root | .002 | .075a | 2.000 | 79.000 | .928 | .002 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 4.400 | .189 | 4.024 | 4.776 |
| 2 | 4.502 | .200 | 4.105 | 4.900 |
| 3 | 4.202 | .146 | 3.911 | 4.494 |
| 2 | 1 | 4.768 | .252 | 4.266 | 5.270 |
| 2 | 4.541 | .173 | 4.197 | 4.885 |
| 3 | 4.885 | .277 | 4.334 | 5.437 |

**Profile Plots**



GLM P4\_LCLF1\_Initial P4\_LCLF1\_Ref P4\_MCMF1\_Initial P4\_MCMF\_Ref P4\_HCHF1\_Initial P4\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:43:08 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM P4\_LCLF1\_Initial P4\_LCLF1\_Ref P4\_MCMF1\_Initial P4\_MCMF\_Ref P4\_HCHF1\_Initial P4\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.22 |
| Elapsed Time | 00:00:00.21 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | P4\_LCLF1\_Initial |
| 2 | P4\_LCLF1\_Ref |
| 2 | 1 | P4\_MCMF1\_Initial |
| 2 | P4\_MCMF\_Ref |
| 3 | 1 | P4\_HCHF1\_Initial |
| 2 | P4\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| P4\_LCLF1\_Initial | 4.3935 | 2.14726 | 92 |
| P4\_LCLF1\_Ref | 4.8772 | 2.48420 | 92 |
| P4\_MCMF1\_Initial | 4.2674 | 2.15973 | 92 |
| P4\_MCMF\_Ref | 4.7250 | 2.30239 | 92 |
| P4\_HCHF1\_Initial | 4.0500 | 1.86055 | 92 |
| P4\_HCHF1\_Ref | 4.8022 | 2.55859 | 92 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .029 | 1.331b | 2.000 | 90.000 |  |  |  |  |
| Wilks' Lambda | .971 | 1.331b | 2.000 | 90.000 |  |  |  |  |
| Hotelling's Trace | .030 | 1.331b | 2.000 | 90.000 |  |  |  |  |
| Roy's Largest Root | .030 | 1.331b | 2.000 | 90.000 |  |  |  |  |
| Timing | Pillai's Trace | .231 | 27.326b | 1.000 | 91.000 |  |  |  |  |
| Wilks' Lambda | .769 | 27.326b | 1.000 | 91.000 |  |  |  |  |
| Hotelling's Trace | .300 | 27.326b | 1.000 | 91.000 |  |  |  |  |
| Roy's Largest Root | .300 | 27.326b | 1.000 | 91.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .019 | .885b | 2.000 | 90.000 |  |  |  |  |
| Wilks' Lambda | .981 | .885b | 2.000 | 90.000 |  |  |  |  |
| Hotelling's Trace | .020 | .885b | 2.000 | 90.000 |  |  |  |  |
| Roy's Largest Root | .020 | .885b | 2.000 | 90.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .966 | 3.157 | 2 | .206 | .967 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .999 | .105 | 2 | .949 | .999 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 4.174 | 2 | 2.087 |  |  |  |  |  |
| Greenhouse-Geisser | 4.174 | 1.933 | 2.159 |  |  |  |  |  |
| Huynh-Feldt | 4.174 | 1.975 | 2.114 |  |  |  |  |  |
| Lower-bound | 4.174 | 1.000 | 4.174 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 346.266 | 182 | 1.903 |  |  |  |  |  |
| Greenhouse-Geisser | 346.266 | 175.936 | 1.968 |  |  |  |  |  |
| Huynh-Feldt | 346.266 | 179.687 | 1.927 |  |  |  |  |  |
| Lower-bound | 346.266 | 91.000 | 3.805 |  |  |  |  |  |
| Timing | Sphericity Assumed | 43.974 | 1 | 43.974 |  |  |  |  |  |
| Greenhouse-Geisser | 43.974 | 1.000 | 43.974 |  |  |  |  |  |
| Huynh-Feldt | 43.974 | 1.000 | 43.974 |  |  |  |  |  |
| Lower-bound | 43.974 | 1.000 | 43.974 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 146.439 | 91 | 1.609 |  |  |  |  |  |
| Greenhouse-Geisser | 146.439 | 91.000 | 1.609 |  |  |  |  |  |
| Huynh-Feldt | 146.439 | 91.000 | 1.609 |  |  |  |  |  |
| Lower-bound | 146.439 | 91.000 | 1.609 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 2.446 | 2 | 1.223 |  |  |  |  |  |
| Greenhouse-Geisser | 2.446 | 1.998 | 1.224 |  |  |  |  |  |
| Huynh-Feldt | 2.446 | 2.000 | 1.223 |  |  |  |  |  |
| Lower-bound | 2.446 | 1.000 | 2.446 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 254.921 | 182 | 1.401 |  |  |  |  |  |
| Greenhouse-Geisser | 254.921 | 181.788 | 1.402 |  |  |  |  |  |
| Huynh-Feldt | 254.921 | 182.000 | 1.401 |  |  |  |  |  |
| Lower-bound | 254.921 | 91.000 | 2.801 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 4.028 | 1 | 4.028 |  |  |  |  |  |
| Quadratic |  | .146 | 1 | .146 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 144.820 | 91 | 1.591 |  |  |  |  |  |
| Quadratic |  | 201.446 | 91 | 2.214 |  |  |  |  |  |
| Timing |  | Linear | 43.974 | 1 | 43.974 |  |  |  |  |  |
| Error(Timing) |  | Linear | 146.439 | 91 | 1.609 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 1.658 | 1 | 1.658 |  |  |  |  |  |
| Quadratic | Linear | .788 | 1 | .788 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 129.260 | 91 | 1.420 |  |  |  |  |  |
| Quadratic | Linear | 125.661 | 91 | 1.381 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 11273.604 | 1 | 11273.604 | 500.166 | .000 | .846 |  |  |
| Error | 2051.116 | 91 | 22.540 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| P4\_LCLF1\_Initial | Intercept | 4.393 | .224 | 19.625 | .000 | 3.949 |  |  |  |  |
| P4\_LCLF1\_Ref | Intercept | 4.877 | .259 | 18.831 | .000 | 4.363 |  |  |  |  |
| P4\_MCMF1\_Initial | Intercept | 4.267 | .225 | 18.952 | .000 | 3.820 |  |  |  |  |
| P4\_MCMF\_Ref | Intercept | 4.725 | .240 | 19.684 | .000 | 4.248 |  |  |  |  |
| P4\_HCHF1\_Initial | Intercept | 4.050 | .194 | 20.879 | .000 | 3.665 |  |  |  |  |
| P4\_HCHF1\_Ref | Intercept | 4.802 | .267 | 18.002 | .000 | 4.272 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 4.519 | .202 | 4.118 | 4.921 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.237 | .183 | 3.873 | 4.601 |
| 2 | 4.801 | .232 | 4.340 | 5.262 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.564\* | .108 | .000 | -.779 | -.350 |
| 2 | 1 | .564\* | .108 | .000 | .350 | .779 |

|  |
| --- |
| 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 | .231 | 27.326a | 1.000 | 91.000 | .000 | .231 |  |  |
| Wilks' lambda | .769 | 27.326a | 1.000 | 91.000 | .000 | .231 |  |  |
| Hotelling's trace | .300 | 27.326a | 1.000 | 91.000 | .000 | .231 |  |  |
| Roy's largest root | .300 | 27.326a | 1.000 | 91.000 | .000 | .231 |  |  |

**3. Comp\_Flu**

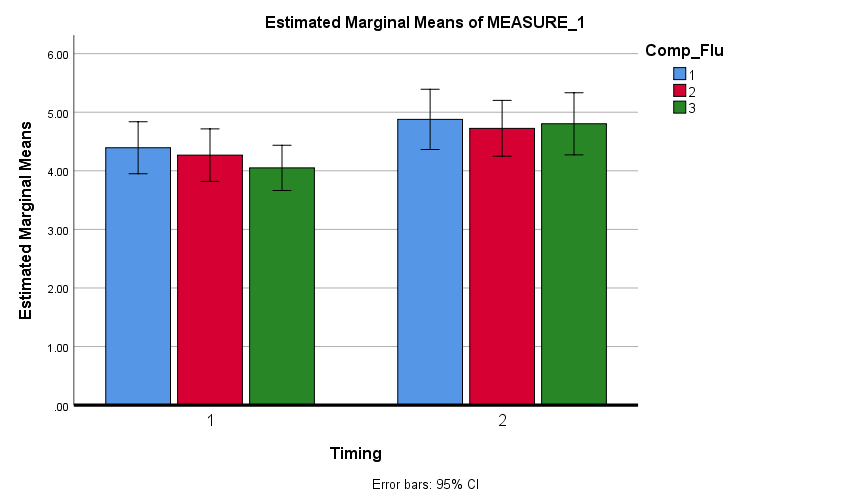
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 4.635 | .221 | 4.196 | 5.075 |
| 2 | 4.496 | .219 | 4.061 | 4.931 |
| 3 | 4.426 | .215 | 3.999 | 4.854 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .139 | .144 | 1.000 | -.213 |  |
| 3 | .209 | .132 | .345 | -.112 |  |
| 2 | 1 | -.139 | .144 | 1.000 | -.491 |  |
| 3 | .070 | .155 | 1.000 | -.307 |  |
| 3 | 1 | -.209 | .132 | .345 | -.530 |  |
| 2 | -.070 | .155 | 1.000 | -.448 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .029 | 1.331a | 2.000 | 90.000 | .269 | .029 |  |  |
| Wilks' lambda | .971 | 1.331a | 2.000 | 90.000 | .269 | .029 |  |  |
| Hotelling's trace | .030 | 1.331a | 2.000 | 90.000 | .269 | .029 |  |  |
| Roy's largest root | .030 | 1.331a | 2.000 | 90.000 | .269 | .029 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 4.393 | .224 | 3.949 | 4.838 |
| 2 | 4.267 | .225 | 3.820 | 4.715 |
| 3 | 4.050 | .194 | 3.665 | 4.435 |
| 2 | 1 | 4.877 | .259 | 4.363 | 5.392 |
| 2 | 4.725 | .240 | 4.248 | 5.202 |
| 3 | 4.802 | .267 | 4.272 | 5.332 |

**Profile Plots**



GLM T6\_LCLF1\_Initial T6\_LCLF1\_Ref T6\_MCMF1\_Initial T6\_MCMF1\_Ref T6\_HCHF1\_Initial T6\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:49:27 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM T6\_LCLF1\_Initial T6\_LCLF1\_Ref T6\_MCMF1\_Initial T6\_MCMF1\_Ref T6\_HCHF1\_Initial T6\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.23 |
| Elapsed Time | 00:00:00.20 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | T6\_LCLF1\_Initial |
| 2 | T6\_LCLF1\_Ref |
| 2 | 1 | T6\_MCMF1\_Initial |
| 2 | T6\_MCMF1\_Ref |
| 3 | 1 | T6\_HCHF1\_Initial |
| 2 | T6\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| T6\_LCLF1\_Initial | 3.1222 | 2.08975 | 99 |
| T6\_LCLF1\_Ref | 3.4313 | 2.27249 | 99 |
| T6\_MCMF1\_Initial | 3.0141 | 2.10795 | 99 |
| T6\_MCMF1\_Ref | 3.2374 | 2.00018 | 99 |
| T6\_HCHF1\_Initial | 2.7949 | 1.78116 | 99 |
| T6\_HCHF1\_Ref | 3.5152 | 2.42821 | 99 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .022 | 1.081b | 2.000 | 97.000 |  |  |  |  |
| Wilks' Lambda | .978 | 1.081b | 2.000 | 97.000 |  |  |  |  |
| Hotelling's Trace | .022 | 1.081b | 2.000 | 97.000 |  |  |  |  |
| Roy's Largest Root | .022 | 1.081b | 2.000 | 97.000 |  |  |  |  |
| Timing | Pillai's Trace | .237 | 30.390b | 1.000 | 98.000 |  |  |  |  |
| Wilks' Lambda | .763 | 30.390b | 1.000 | 98.000 |  |  |  |  |
| Hotelling's Trace | .310 | 30.390b | 1.000 | 98.000 |  |  |  |  |
| Roy's Largest Root | .310 | 30.390b | 1.000 | 98.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .086 | 4.537b | 2.000 | 97.000 |  |  |  |  |
| Wilks' Lambda | .914 | 4.537b | 2.000 | 97.000 |  |  |  |  |
| Hotelling's Trace | .094 | 4.537b | 2.000 | 97.000 |  |  |  |  |
| Roy's Largest Root | .094 | 4.537b | 2.000 | 97.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .991 | .841 | 2 | .657 | .991 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .953 | 4.701 | 2 | .095 | .955 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 2.539 | 2 | 1.270 |  |  |  |  |  |
| Greenhouse-Geisser | 2.539 | 1.983 | 1.281 |  |  |  |  |  |
| Huynh-Feldt | 2.539 | 2.000 | 1.270 |  |  |  |  |  |
| Lower-bound | 2.539 | 1.000 | 2.539 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 210.601 | 196 | 1.074 |  |  |  |  |  |
| Greenhouse-Geisser | 210.601 | 194.322 | 1.084 |  |  |  |  |  |
| Huynh-Feldt | 210.601 | 196.000 | 1.074 |  |  |  |  |  |
| Lower-bound | 210.601 | 98.000 | 2.149 |  |  |  |  |  |
| Timing | Sphericity Assumed | 25.886 | 1 | 25.886 |  |  |  |  |  |
| Greenhouse-Geisser | 25.886 | 1.000 | 25.886 |  |  |  |  |  |
| Huynh-Feldt | 25.886 | 1.000 | 25.886 |  |  |  |  |  |
| Lower-bound | 25.886 | 1.000 | 25.886 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 83.474 | 98 | .852 |  |  |  |  |  |
| Greenhouse-Geisser | 83.474 | 98.000 | .852 |  |  |  |  |  |
| Huynh-Feldt | 83.474 | 98.000 | .852 |  |  |  |  |  |
| Lower-bound | 83.474 | 98.000 | .852 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 6.985 | 2 | 3.493 |  |  |  |  |  |
| Greenhouse-Geisser | 6.985 | 1.910 | 3.658 |  |  |  |  |  |
| Huynh-Feldt | 6.985 | 1.947 | 3.588 |  |  |  |  |  |
| Lower-bound | 6.985 | 1.000 | 6.985 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 190.455 | 196 | .972 |  |  |  |  |  |
| Greenhouse-Geisser | 190.455 | 187.147 | 1.018 |  |  |  |  |  |
| Huynh-Feldt | 190.455 | 190.774 | .998 |  |  |  |  |  |
| Lower-bound | 190.455 | 98.000 | 1.943 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 1.467 | 1 | 1.467 |  |  |  |  |  |
| Quadratic |  | 1.073 | 1 | 1.073 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 110.841 | 98 | 1.131 |  |  |  |  |  |
| Quadratic |  | 99.760 | 98 | 1.018 |  |  |  |  |  |
| Timing |  | Linear | 25.886 | 1 | 25.886 |  |  |  |  |  |
| Error(Timing) |  | Linear | 83.474 | 98 | .852 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 4.183 | 1 | 4.183 |  |  |  |  |  |
| Quadratic | Linear | 2.802 | 1 | 2.802 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 94.234 | 98 | .962 |  |  |  |  |  |
| Quadratic | Linear | 96.220 | 98 | .982 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 6028.919 | 1 | 6028.919 | 272.802 | .000 | .736 |  |  |
| Error | 2165.801 | 98 | 22.100 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| T6\_LCLF1\_Initial | Intercept | 3.122 | .210 | 14.866 | .000 | 2.705 |  |  |  |  |
| T6\_LCLF1\_Ref | Intercept | 3.431 | .228 | 15.024 | .000 | 2.978 |  |  |  |  |
| T6\_MCMF1\_Initial | Intercept | 3.014 | .212 | 14.227 | .000 | 2.594 |  |  |  |  |
| T6\_MCMF1\_Ref | Intercept | 3.237 | .201 | 16.104 | .000 | 2.838 |  |  |  |  |
| T6\_HCHF1\_Initial | Intercept | 2.795 | .179 | 15.613 | .000 | 2.440 |  |  |  |  |
| T6\_HCHF1\_Ref | Intercept | 3.515 | .244 | 14.404 | .000 | 3.031 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 3.186 | .193 | 2.803 | 3.569 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 2.977 | .183 | 2.615 | 3.340 |
| 2 | 3.395 | .210 | 2.979 | 3.810 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.418\* | .076 | .000 | -.568 | -.267 |
| 2 | 1 | .418\* | .076 | .000 | .267 | .568 |

|  |
| --- |
| 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 | .237 | 30.390a | 1.000 | 98.000 | .000 | .237 |  |  |
| Wilks' lambda | .763 | 30.390a | 1.000 | 98.000 | .000 | .237 |  |  |
| Hotelling's trace | .310 | 30.390a | 1.000 | 98.000 | .000 | .237 |  |  |
| Roy's largest root | .310 | 30.390a | 1.000 | 98.000 | .000 | .237 |  |  |

**3. Comp\_Flu**

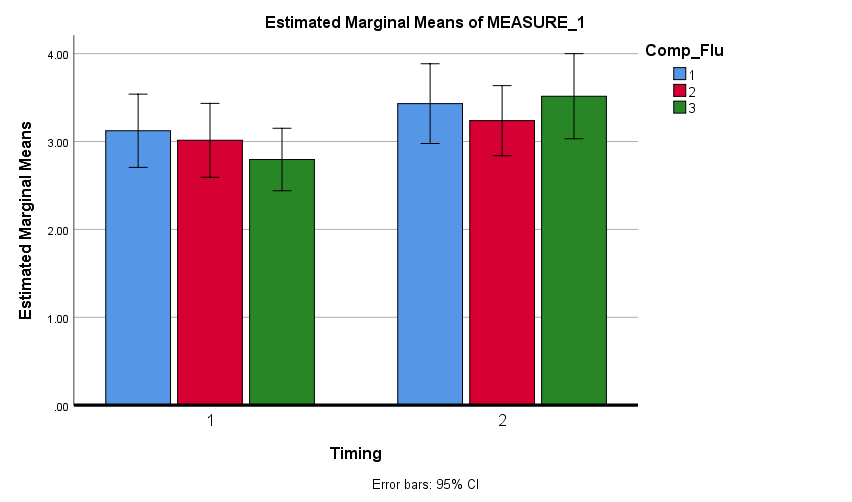
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.277 | .204 | 2.873 | 3.681 |
| 2 | 3.126 | .199 | 2.730 | 3.522 |
| 3 | 3.155 | .203 | 2.752 | 3.558 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.a | 95% Confidence Interval for Differencea |  |
| Lower Bound |  |
| 1 | 2 | .151 | .106 | .475 | -.108 |  |
| 3 | .122 | .107 | .773 | -.139 |  |
| 2 | 1 | -.151 | .106 | .475 | -.410 |  |
| 3 | -.029 | .099 | 1.000 | -.271 |  |
| 3 | 1 | -.122 | .107 | .773 | -.382 |  |
| 2 | .029 | .099 | 1.000 | -.212 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .022 | 1.081a | 2.000 | 97.000 | .343 | .022 |  |  |
| Wilks' lambda | .978 | 1.081a | 2.000 | 97.000 | .343 | .022 |  |  |
| Hotelling's trace | .022 | 1.081a | 2.000 | 97.000 | .343 | .022 |  |  |
| Roy's largest root | .022 | 1.081a | 2.000 | 97.000 | .343 | .022 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 3.122 | .210 | 2.705 | 3.539 |
| 2 | 3.014 | .212 | 2.594 | 3.435 |
| 3 | 2.795 | .179 | 2.440 | 3.150 |
| 2 | 1 | 3.431 | .228 | 2.978 | 3.885 |
| 2 | 3.237 | .201 | 2.838 | 3.636 |
| 3 | 3.515 | .244 | 3.031 | 3.999 |

**Profile Plots**



GLM O1\_LCLF1\_Initial O1\_LCLF1\_Ref O1\_MCMF1\_Initial O1\_MCMF1\_Ref O1\_HCHF1\_Initial O1\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 09:57:38 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM O1\_LCLF1\_Initial O1\_LCLF1\_Ref O1\_MCMF1\_Initial O1\_MCMF1\_Ref O1\_HCHF1\_Initial O1\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.25 |
| Elapsed Time | 00:00:00.22 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | O1\_LCLF1\_Initial |
| 2 | O1\_LCLF1\_Ref |
| 2 | 1 | O1\_MCMF1\_Initial |
| 2 | O1\_MCMF1\_Ref |
| 3 | 1 | O1\_HCHF1\_Initial |
| 2 | O1\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| O1\_LCLF1\_Initial | 2.8590 | 1.40375 | 78 |
| O1\_LCLF1\_Ref | 3.3692 | 1.93769 | 78 |
| O1\_MCMF1\_Initial | 3.2410 | 1.57484 | 78 |
| O1\_MCMF1\_Ref | 3.4410 | 1.55884 | 78 |
| O1\_HCHF1\_Initial | 3.4846 | 1.97307 | 78 |
| O1\_HCHF1\_Ref | 3.7423 | 1.91186 | 78 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .154 | 6.923b | 2.000 | 76.000 |  |  |  |  |
| Wilks' Lambda | .846 | 6.923b | 2.000 | 76.000 |  |  |  |  |
| Hotelling's Trace | .182 | 6.923b | 2.000 | 76.000 |  |  |  |  |
| Roy's Largest Root | .182 | 6.923b | 2.000 | 76.000 |  |  |  |  |
| Timing | Pillai's Trace | .107 | 9.199b | 1.000 | 77.000 |  |  |  |  |
| Wilks' Lambda | .893 | 9.199b | 1.000 | 77.000 |  |  |  |  |
| Hotelling's Trace | .119 | 9.199b | 1.000 | 77.000 |  |  |  |  |
| Roy's Largest Root | .119 | 9.199b | 1.000 | 77.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .034 | 1.328b | 2.000 | 76.000 |  |  |  |  |
| Wilks' Lambda | .966 | 1.328b | 2.000 | 76.000 |  |  |  |  |
| Hotelling's Trace | .035 | 1.328b | 2.000 | 76.000 |  |  |  |  |
| Roy's Largest Root | .035 | 1.328b | 2.000 | 76.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .995 | .349 | 2 | .840 | .995 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .979 | 1.632 | 2 | .442 | .979 |  |  |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 19.504 | 2 | 9.752 |  |  |  |  |  |
| Greenhouse-Geisser | 19.504 | 1.991 | 9.797 |  |  |  |  |  |
| Huynh-Feldt | 19.504 | 2.000 | 9.752 |  |  |  |  |  |
| Lower-bound | 19.504 | 1.000 | 19.504 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 207.653 | 154 | 1.348 |  |  |  |  |  |
| Greenhouse-Geisser | 207.653 | 153.299 | 1.355 |  |  |  |  |  |
| Huynh-Feldt | 207.653 | 154.000 | 1.348 |  |  |  |  |  |
| Lower-bound | 207.653 | 77.000 | 2.697 |  |  |  |  |  |
| Timing | Sphericity Assumed | 12.180 | 1 | 12.180 |  |  |  |  |  |
| Greenhouse-Geisser | 12.180 | 1.000 | 12.180 |  |  |  |  |  |
| Huynh-Feldt | 12.180 | 1.000 | 12.180 |  |  |  |  |  |
| Lower-bound | 12.180 | 1.000 | 12.180 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 101.955 | 77 | 1.324 |  |  |  |  |  |
| Greenhouse-Geisser | 101.955 | 77.000 | 1.324 |  |  |  |  |  |
| Huynh-Feldt | 101.955 | 77.000 | 1.324 |  |  |  |  |  |
| Lower-bound | 101.955 | 77.000 | 1.324 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 2.124 | 2 | 1.062 |  |  |  |  |  |
| Greenhouse-Geisser | 2.124 | 1.958 | 1.085 |  |  |  |  |  |
| Huynh-Feldt | 2.124 | 2.000 | 1.062 |  |  |  |  |  |
| Lower-bound | 2.124 | 1.000 | 2.124 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 139.046 | 154 | .903 |  |  |  |  |  |
| Greenhouse-Geisser | 139.046 | 150.796 | .922 |  |  |  |  |  |
| Huynh-Feldt | 139.046 | 154.000 | .903 |  |  |  |  |  |
| Lower-bound | 139.046 | 77.000 | 1.806 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 19.450 | 1 | 19.450 |  |  |  |  |  |
| Quadratic |  | .054 | 1 | .054 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 106.762 | 77 | 1.387 |  |  |  |  |  |
| Quadratic |  | 100.890 | 77 | 1.310 |  |  |  |  |  |
| Timing |  | Linear | 12.180 | 1 | 12.180 |  |  |  |  |  |
| Error(Timing) |  | Linear | 101.955 | 77 | 1.324 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 1.244 | 1 | 1.244 |  |  |  |  |  |
| Quadratic | Linear | .880 | 1 | .880 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 62.399 | 77 | .810 |  |  |  |  |  |
| Quadratic | Linear | 76.647 | 77 | .995 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 5271.578 | 1 | 5271.578 | 426.615 | .000 | .847 |  |  |
| Error | 951.470 | 77 | 12.357 |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| O1\_LCLF1\_Initial | Intercept | 2.859 | .159 | 17.987 | .000 | 2.542 |  |  |  |  |
| O1\_LCLF1\_Ref | Intercept | 3.369 | .219 | 15.357 | .000 | 2.932 |  |  |  |  |
| O1\_MCMF1\_Initial | Intercept | 3.241 | .178 | 18.176 | .000 | 2.886 |  |  |  |  |
| O1\_MCMF1\_Ref | Intercept | 3.441 | .177 | 19.495 | .000 | 3.090 |  |  |  |  |
| O1\_HCHF1\_Initial | Intercept | 3.485 | .223 | 15.598 | .000 | 3.040 |  |  |  |  |
| O1\_HCHF1\_Ref | Intercept | 3.742 | .216 | 17.287 | .000 | 3.311 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 3.356 | .162 | 3.033 | 3.680 |

**2. Timing**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.195 | .160 | 2.877 | 3.513 |
| 2 | 3.518 | .181 | 3.156 | 3.879 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.323\* | .106 | .003 | -.534 | -.111 |
| 2 | 1 | .323\* | .106 | .003 | .111 | .534 |

|  |
| --- |
| 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 | .107 | 9.199a | 1.000 | 77.000 | .003 | .107 |  |  |
| Wilks' lambda | .893 | 9.199a | 1.000 | 77.000 | .003 | .107 |  |  |
| Hotelling's trace | .119 | 9.199a | 1.000 | 77.000 | .003 | .107 |  |  |
| Roy's largest root | .119 | 9.199a | 1.000 | 77.000 | .003 | .107 |  |  |

**3. Comp\_Flu**

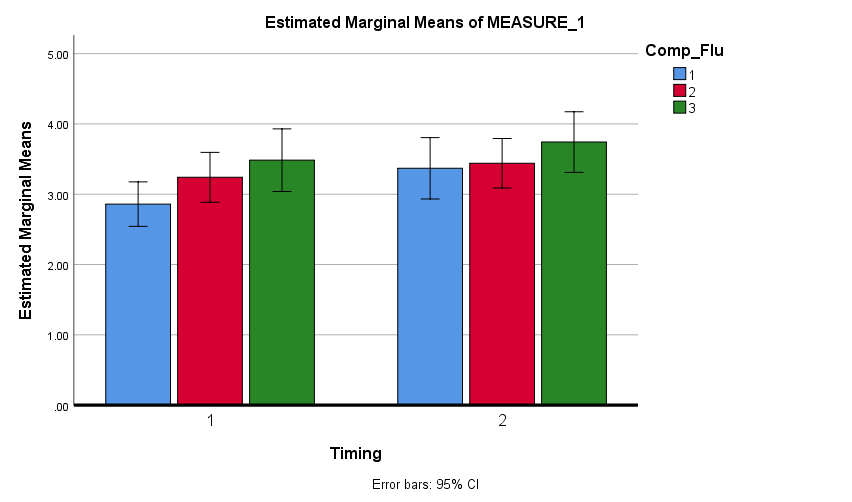
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.114 | .171 | 2.773 | 3.455 |
| 2 | 3.341 | .167 | 3.008 | 3.674 |
| 3 | 3.613 | .198 | 3.219 | 4.008 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb |  |
| Lower Bound |  |
| 1 | 2 | -.227 | .127 | .234 | -.538 |  |
| 3 | -.499\* | .133 | .001 | -.826 |  |
| 2 | 1 | .227 | .127 | .234 | -.084 |  |
| 3 | -.272 | .134 | .137 | -.600 |  |
| 3 | 1 | .499\* | .133 | .001 | .173 |  |
| 2 | .272 | .134 | .137 | -.056 |  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .154 | 6.923a | 2.000 | 76.000 | .002 | .154 |  |  |
| Wilks' lambda | .846 | 6.923a | 2.000 | 76.000 | .002 | .154 |  |  |
| Hotelling's trace | .182 | 6.923a | 2.000 | 76.000 | .002 | .154 |  |  |
| Roy's largest root | .182 | 6.923a | 2.000 | 76.000 | .002 | .154 |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 2.859 | .159 | 2.542 | 3.175 |
| 2 | 3.241 | .178 | 2.886 | 3.596 |
| 3 | 3.485 | .223 | 3.040 | 3.929 |
| 2 | 1 | 3.369 | .219 | 2.932 | 3.806 |
| 2 | 3.441 | .177 | 3.090 | 3.792 |
| 3 | 3.742 | .216 | 3.311 | 4.173 |

**Profile Plots**



GLM O2\_LCLF1\_Initial O2\_LCLF1\_Ref O2\_MCMF1\_Initial O2\_MCMF1\_Ref O2\_HCHF1\_Initial O2\_HCHF1\_Ref

/WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial

/METHOD=SSTYPE(3)

/PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO

/EMMEANS=TABLES(OVERALL)

/EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)

/EMMEANS=TABLES(Timing\*Comp\_Flu)

/PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER

/CRITERIA=ALPHA(.05)

/WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing.

**General Linear Model**

|  |  |  |
| --- | --- | --- |
| **Notes** | | |
| Output Created | | 10-OCT-2019 10:03:47 |
| Comments | |  |
| Input | Data | E:\Master's by Research\Tammy's MSc Data - Study 2\Study\_2\_EEG\_Data\Study\_2\_EEG\_Alpha\_Data\_Outlier\_Analysis\_Updated.sav |
| Active Dataset | DataSet1 |
| Filter | <none> |
| Weight | <none> |
| Split File | <none> |
| N of Rows in Working Data File | 144 |
| 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. |
| Syntax | | GLM O2\_LCLF1\_Initial O2\_LCLF1\_Ref O2\_MCMF1\_Initial O2\_MCMF1\_Ref O2\_HCHF1\_Initial O2\_HCHF1\_Ref  /WSFACTOR=Comp\_Flu 3 Polynomial Timing 2 Polynomial  /METHOD=SSTYPE(3)  /PLOT=PROFILE(Timing\*Comp\_Flu) TYPE=BAR ERRORBAR=CI MEANREFERENCE=NO  /EMMEANS=TABLES(OVERALL)  /EMMEANS=TABLES(Timing) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Comp\_Flu) COMPARE ADJ(BONFERRONI)  /EMMEANS=TABLES(Timing\*Comp\_Flu)  /PRINT=DESCRIPTIVE ETASQ OPOWER PARAMETER  /CRITERIA=ALPHA(.05)  /WSDESIGN=Comp\_Flu Timing Comp\_Flu\*Timing. |
| Resources | Processor Time | 00:00:00.22 |
| Elapsed Time | 00:00:00.20 |

|  |  |  |
| --- | --- | --- |
| **Within-Subjects Factors** | | |
| Measure: MEASURE\_1 | | |
| Comp\_Flu | Timing | Dependent Variable |
| 1 | 1 | O2\_LCLF1\_Initial |
| 2 | O2\_LCLF1\_Ref |
| 2 | 1 | O2\_MCMF1\_Initial |
| 2 | O2\_MCMF1\_Ref |
| 3 | 1 | O2\_HCHF1\_Initial |
| 2 | O2\_HCHF1\_Ref |

|  |  |  |  |
| --- | --- | --- | --- |
| **Descriptive Statistics** | | | |
|  | Mean | Std. Deviation | N |
| O2\_LCLF1\_Initial | 3.4869 | 2.31250 | 84 |
| O2\_LCLF1\_Ref | 3.7381 | 2.28256 | 84 |
| O2\_MCMF1\_Initial | 4.0393 | 2.77133 | 84 |
| O2\_MCMF1\_Ref | 4.1226 | 2.46427 | 84 |
| O2\_HCHF1\_Initial | 3.9119 | 2.47442 | 84 |
| O2\_HCHF1\_Ref | 4.3988 | 2.72324 | 84 |

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Testsa** | | | | | | | | | |
| Effect | | Value | F | Hypothesis df | Error df |  |  |  |  |
| Comp\_Flu | Pillai's Trace | .143 | 6.863b | 2.000 | 82.000 |  |  |  |  |
| Wilks' Lambda | .857 | 6.863b | 2.000 | 82.000 |  |  |  |  |
| Hotelling's Trace | .167 | 6.863b | 2.000 | 82.000 |  |  |  |  |
| Roy's Largest Root | .167 | 6.863b | 2.000 | 82.000 |  |  |  |  |
| Timing | Pillai's Trace | .062 | 5.466b | 1.000 | 83.000 |  |  |  |  |
| Wilks' Lambda | .938 | 5.466b | 1.000 | 83.000 |  |  |  |  |
| Hotelling's Trace | .066 | 5.466b | 1.000 | 83.000 |  |  |  |  |
| Roy's Largest Root | .066 | 5.466b | 1.000 | 83.000 |  |  |  |  |
| Comp\_Flu \* Timing | Pillai's Trace | .018 | .743b | 2.000 | 82.000 |  |  |  |  |
| Wilks' Lambda | .982 | .743b | 2.000 | 82.000 |  |  |  |  |
| Hotelling's Trace | .018 | .743b | 2.000 | 82.000 |  |  |  |  |
| Roy's Largest Root | .018 | .743b | 2.000 | 82.000 |  |  |  |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Mauchly's Test of Sphericitya** | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | |
| Within Subjects Effect | Mauchly's W | Approx. Chi-Square | df | Sig. | Epsilonb |  |  |
| Greenhouse-Geisser |  |  |
| Comp\_Flu | .954 | 3.857 | 2 | .145 | .956 |  |  |
| Timing | 1.000 | .000 | 0 | . | 1.000 |  |  |
| Comp\_Flu \* Timing | .969 | 2.593 | 2 | .273 | .970 |  |  |

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| **Tests of Within-Subjects Effects** | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | |
| Source | | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Sphericity Assumed | 29.102 | 2 | 14.551 |  |  |  |  |  |
| Greenhouse-Geisser | 29.102 | 1.912 | 15.220 |  |  |  |  |  |
| Huynh-Feldt | 29.102 | 1.956 | 14.877 |  |  |  |  |  |
| Lower-bound | 29.102 | 1.000 | 29.102 |  |  |  |  |  |
| Error(Comp\_Flu) | Sphericity Assumed | 433.185 | 166 | 2.610 |  |  |  |  |  |
| Greenhouse-Geisser | 433.185 | 158.708 | 2.729 |  |  |  |  |  |
| Huynh-Feldt | 433.185 | 162.360 | 2.668 |  |  |  |  |  |
| Lower-bound | 433.185 | 83.000 | 5.219 |  |  |  |  |  |
| Timing | Sphericity Assumed | 9.446 | 1 | 9.446 |  |  |  |  |  |
| Greenhouse-Geisser | 9.446 | 1.000 | 9.446 |  |  |  |  |  |
| Huynh-Feldt | 9.446 | 1.000 | 9.446 |  |  |  |  |  |
| Lower-bound | 9.446 | 1.000 | 9.446 |  |  |  |  |  |
| Error(Timing) | Sphericity Assumed | 143.434 | 83 | 1.728 |  |  |  |  |  |
| Greenhouse-Geisser | 143.434 | 83.000 | 1.728 |  |  |  |  |  |
| Huynh-Feldt | 143.434 | 83.000 | 1.728 |  |  |  |  |  |
| Lower-bound | 143.434 | 83.000 | 1.728 |  |  |  |  |  |
| Comp\_Flu \* Timing | Sphericity Assumed | 3.452 | 2 | 1.726 |  |  |  |  |  |
| Greenhouse-Geisser | 3.452 | 1.940 | 1.780 |  |  |  |  |  |
| Huynh-Feldt | 3.452 | 1.985 | 1.739 |  |  |  |  |  |
| Lower-bound | 3.452 | 1.000 | 3.452 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Sphericity Assumed | 366.627 | 166 | 2.209 |  |  |  |  |  |
| Greenhouse-Geisser | 366.627 | 160.988 | 2.277 |  |  |  |  |  |
| Huynh-Feldt | 366.627 | 164.778 | 2.225 |  |  |  |  |  |
| Lower-bound | 366.627 | 83.000 | 4.417 |  |  |  |  |  |

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| **Tests of Within-Subjects Contrasts** | | | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | | | |
| Source | Comp\_Flu | Timing | Type III Sum of Squares | df | Mean Square |  |  |  |  |  |
| Comp\_Flu | Linear |  | 24.754 | 1 | 24.754 |  |  |  |  |  |
| Quadratic |  | 4.348 | 1 | 4.348 |  |  |  |  |  |
| Error(Comp\_Flu) | Linear |  | 203.731 | 83 | 2.455 |  |  |  |  |  |
| Quadratic |  | 229.454 | 83 | 2.765 |  |  |  |  |  |
| Timing |  | Linear | 9.446 | 1 | 9.446 |  |  |  |  |  |
| Error(Timing) |  | Linear | 143.434 | 83 | 1.728 |  |  |  |  |  |
| Comp\_Flu \* Timing | Linear | Linear | 1.167 | 1 | 1.167 |  |  |  |  |  |
| Quadratic | Linear | 2.286 | 1 | 2.286 |  |  |  |  |  |
| Error(Comp\_Flu\*Timing) | Linear | Linear | 207.518 | 83 | 2.500 |  |  |  |  |  |
| Quadratic | Linear | 159.109 | 83 | 1.917 |  |  |  |  |  |

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| **Tests of Between-Subjects Effects** | | | | | | | | |
| Measure: MEASURE\_1 | | | | | | | | |
| Transformed Variable: Average | | | | | | | | |
| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |  |  |
| Intercept | 7862.080 | 1 | 7862.080 | 296.851 | .000 | .781 |  |  |
| Error | 2198.253 | 83 | 26.485 |  |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Parameter Estimates** | | | | | | | | | | |
| Dependent Variable | Parameter | B | Std. Error | t | Sig. | 95% Confidence Interval |  |  |  |  |
| Lower Bound |  |  |  |  |
| O2\_LCLF1\_Initial | Intercept | 3.487 | .252 | 13.820 | .000 | 2.985 |  |  |  |  |
| O2\_LCLF1\_Ref | Intercept | 3.738 | .249 | 15.010 | .000 | 3.243 |  |  |  |  |
| O2\_MCMF1\_Initial | Intercept | 4.039 | .302 | 13.358 | .000 | 3.438 |  |  |  |  |
| O2\_MCMF1\_Ref | Intercept | 4.123 | .269 | 15.333 | .000 | 3.588 |  |  |  |  |
| O2\_HCHF1\_Initial | Intercept | 3.912 | .270 | 14.490 | .000 | 3.375 |  |  |  |  |
| O2\_HCHF1\_Ref | Intercept | 4.399 | .297 | 14.804 | .000 | 3.808 |  |  |  |  |

**Estimated Marginal Means**

|  |  |  |  |
| --- | --- | --- | --- |
| **1. Grand Mean** | | | |
| Measure: MEASURE\_1 | | | |
| Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 3.950 | .229 | 3.494 | 4.406 |

**2. Timing**

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| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Timing | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.813 | .243 | 3.329 | 4.296 |
| 2 | 4.087 | .230 | 3.629 | 4.544 |

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| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Timing | (J) Timing | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb | |
| Lower Bound | Upper Bound |
| 1 | 2 | -.274\* | .117 | .022 | -.507 | -.041 |
| 2 | 1 | .274\* | .117 | .022 | .041 | .507 |

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| --- |
| Based on estimated marginal means |
| \*. The mean difference is significant at the .05 level. |
| b. Adjustment for multiple comparisons: Bonferroni. |

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| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .062 | 5.466a | 1.000 | 83.000 | .022 | .062 |  |  |
| Wilks' lambda | .938 | 5.466a | 1.000 | 83.000 | .022 | .062 |  |  |
| Hotelling's trace | .066 | 5.466a | 1.000 | 83.000 | .022 | .062 |  |  |
| Roy's largest root | .066 | 5.466a | 1.000 | 83.000 | .022 | .062 |  |  |

**3. Comp\_Flu**

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| --- | --- | --- | --- | --- |
| **Estimates** | | | | |
| Measure: MEASURE\_1 | | | | |
| Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 3.612 | .224 | 3.167 | 4.058 |
| 2 | 4.081 | .271 | 3.543 | 4.619 |
| 3 | 4.155 | .256 | 3.647 | 4.664 |

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| **Pairwise Comparisons** | | | | | | |
| Measure: MEASURE\_1 | | | | | | |
| (I) Comp\_Flu | (J) Comp\_Flu | Mean Difference (I-J) | Std. Error | Sig.b | 95% Confidence Interval for Differenceb |  |
| Lower Bound |  |
| 1 | 2 | -.468\* | .163 | .015 | -.866 |  |
| 3 | -.543\* | .171 | .006 | -.961 |  |
| 2 | 1 | .468\* | .163 | .015 | .071 |  |
| 3 | -.074 | .194 | 1.000 | -.548 |  |
| 3 | 1 | .543\* | .171 | .006 | .125 |  |
| 2 | .074 | .194 | 1.000 | -.399 |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Multivariate Tests** | | | | | | | | |
|  | Value | F | Hypothesis df | Error df | Sig. | Partial Eta Squared |  |  |
| Pillai's trace | .143 | 6.863a | 2.000 | 82.000 | .002 | .143 |  |  |
| Wilks' lambda | .857 | 6.863a | 2.000 | 82.000 | .002 | .143 |  |  |
| Hotelling's trace | .167 | 6.863a | 2.000 | 82.000 | .002 | .143 |  |  |
| Roy's largest root | .167 | 6.863a | 2.000 | 82.000 | .002 | .143 |  |  |

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| **4. Timing \* Comp\_Flu** | | | | | |
| Measure: MEASURE\_1 | | | | | |
| Timing | Comp\_Flu | Mean | Std. Error | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| 1 | 1 | 3.487 | .252 | 2.985 | 3.989 |
| 2 | 4.039 | .302 | 3.438 | 4.641 |
| 3 | 3.912 | .270 | 3.375 | 4.449 |
| 2 | 1 | 3.738 | .249 | 3.243 | 4.233 |
| 2 | 4.123 | .269 | 3.588 | 4.657 |
| 3 | 4.399 | .297 | 3.808 | 4.990 |

**Profile Plots**

