```
 GET
  FILE='C:\Users\cooperr\Desktop\MY RESEARCH\Pet directed speech study\Statistical Analys
es for Puppy Paper\New Formants for Individual Moms2.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
COMPUTE melADBeadF1 = (1127.01048*Ln(ADBeadF1/700+1)) .
COMPUTE melADBeadF1 = (1127.01048*Ln(ADBeadF1/700+1)) .
EXECUTE .
COMPUTE melADBootF1 = (1127.01048*Ln(ADBootF1/700+1)) .
EXECUTE .
COMPUTE melADBoxF1 = (1127.01048*Ln(ADBoxF1/700+1)) .

>Error # 4285 in column 37.  Text: ADBoxF1
>Incorrect variable name: either the name is more than 64 characters, or it is
>not defined by a previous command.
>Execution of this command stops.
EXECUTE .
COMPUTE melIDBeadF1 = (1127.01048*Ln(IDBeadF1/700+1)) .
EXECUTE .
COMPUTE melIDBootF1 = (1127.01048*Ln(IDBootF1/700+1)) .
EXECUTE .
COMPUTE melIDBoxF1 = (1127.01048*Ln(IDBoxF1/700+1)) .

>Error # 4285 in column 37.  Text: IDBoxF1
>Incorrect variable name: either the name is more than 64 characters, or it is
>not defined by a previous command.
>Execution of this command stops.
EXECUTE .
COMPUTE melPDBeadF1 = (1127.01048*Ln(PDBeadF1/700+1)) .
EXECUTE .
COMPUTE melPDBootF1 = (1127.01048*Ln(PDBootF1/700+1)) .
EXECUTE .
COMPUTE melPDBoxF1 = (1127.01048*Ln(PDBoxF1/700+1)) .

>Error # 4285 in column 37.  Text: PDBoxF1
>Incorrect variable name: either the name is more than 64 characters, or it is
>not defined by a previous command.
>Execution of this command stops.
EXECUTE .
COMPUTE melADBallF1 = (1127.01048*Ln(ADBallF1/700+1)) .
EXECUTE .
COMPUTE melIDBallF1 = (1127.01048*Ln(IDBallF1/700+1)) .
EXECUTE .
COMPUTE melPDBallF1 = (1127.01048*Ln(PDBallF1/700+1)) .
EXECUTE .

COMPUTE melADBeadF2 = (1127.01048*Ln(ADBeadF2/700+1)) .
EXECUTE .
```

```
COMPUTE melADBootF2 = (1127.01048*Ln(ADBootF2/700+1)) .
EXECUTE .
COMPUTE melADBoxF2 = (1127.01048*Ln(ADBoxF2/700+1)) .

>Error # 4285 in column 37.  Text: ADBoxF2
>Incorrect variable name: either the name is more than 64 characters, or it is
>not defined by a previous command.
>Execution of this command stops.
EXECUTE .
COMPUTE melIDBeadF2 = (1127.01048*Ln(IDBeadF2/700+1)) .
EXECUTE .
COMPUTE melIDBootF2 = (1127.01048*Ln(IDBootF2/700+1)) .
EXECUTE .
COMPUTE melIDBoxF2 = (1127.01048*Ln(IDBoxF2/700+1)) .

>Error # 4285 in column 37.  Text: IDBoxF2
>Incorrect variable name: either the name is more than 64 characters, or it is
>not defined by a previous command.
>Execution of this command stops.
EXECUTE .
COMPUTE melPDBeadF2 = (1127.01048*Ln(PDBeadF2/700+1)) .
EXECUTE .
COMPUTE melPDBootF2 = (1127.01048*Ln(PDBootF2/700+1)) .
EXECUTE .
COMPUTE melPDBoxF2 = (1127.01048*Ln(PDBoxF2/700+1)) .

>Error # 4285 in column 37.  Text: PDBoxF2
>Incorrect variable name: either the name is more than 64 characters, or it is
>not defined by a previous command.
>Execution of this command stops.
EXECUTE .
COMPUTE melADBallF2 = (1127.01048*Ln(ADBallF1/700+1)) .
EXECUTE .
COMPUTE melIDBallF2 = (1127.01048*Ln(IDBallF1/700+1)) .
EXECUTE .
COMPUTE melPDBallF2 = (1127.01048*Ln(PDBallF1/700+1)) .
EXECUTE .
GET
  FILE='C:\Users\cooperr\Desktop\MY RESEARCH\Pet directed speech study\Statistical Analys
es for Puppy Paper\Vowel Spaces V1 V2 V3.sav'.
DATASET NAME DataSet2 WINDOW=FRONT.
DATASET ACTIVATE DataSet1.
DATASET CLOSE DataSet2.
* Encoding: UTF-8.
COMPUTE melIDVowelSpace1 = (melIDBeadF1 * (melIDBootF2-melIDBallF2) + melIDBootF1 * (melI
DBeadF2
 -melIDBallF2)+melIDBallF1*(melIDBeadF2-melIDBootF2))/2 .
EXECUTE .
COMPUTE melPDVowelSpace1 = (melPDBeadF1 * (melPDBootF2-melPDBallF2) + melPDBootF1 * (melP
```

```
DBeadF2
 -melPDBallF2)+melPDBallF1*(melPDBeadF2-melPDBootF2))/2 .
EXECUTE .
COMPUTE melADVowelSpace1 = (melADBeadF1 * (melADBootF2-melADBallF2) + melADBootF1 * (melA
DBeadF2
 -melADBallF2)+melADBallF1*(melADBeadF2-melADBootF2))/2 .
EXECUTE .
* Encoding: UTF-8.
COMPUTE melIDVowelSpace1 = (melIDBeadF1 * (melIDBootF2-melIDBallF2) + melIDBootF1 * (melI
DBeadF2
 -melIDBallF2)+melIDBallF1*(melIDBeadF2-melIDBootF2))/2 .
EXECUTE .
COMPUTE melPDVowelSpace1 = (melPDBeadF1 * (melPDBootF2-melPDBallF2) + melPDBootF1 * (melP
DBeadF2
 -melPDBallF2)+melPDBallF1*(melPDBeadF2-melPDBootF2))/2 .
EXECUTE .
COMPUTE melADVowelSpace1 = (melADBeadF1 * (melADBootF2-melADBallF2) + melADBootF1 * (melA
DBeadF2
 -melADBallF2)+melADBallF1*(melADBeadF2-melADBootF2))/2 .
EXECUTE .
GLM melIDVowelSpace1 melPDVowelSpace1 melADVowelSpace1
  /WSFACTOR=listener 3 Polynomial
  /METHOD=SSTYPE(3)
  /EMMEANS=TABLES(listener)
  /PRINT=DESCRIPTIVE ETASQ
  /CRITERIA=ALPHA(.05)
  /WSDESIGN=listener.
```

General Linear Model

Notes

Output Created		16-MAY-2022 14:35:37
Comments		
Input	Data	C:\Users\cooperr\Desktop\MY RESEARCH\Pet directed speech study\Statistical Analyses for Puppy Paper\New Formants for Individual Moms2.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	30
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 melIDVowelSpace1 melPDVowelSpace1 melADVowelSpace1 /WSFACTOR=listener 3 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES (listener) /PRINT=DESCRIPTIVE ETASQ /CRITERIA=ALPHA(.05) /WSDESIGN=listener.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

Within-Subjects Factors

Measure: MEASURE_1

listener	Dependent Variable
1	melIDVowelSpace1
2	melPDVowelSpace1
3	melADVowelSpace1

Descriptive Statistics

	Mean	Std. Deviation	N
melIDVowelSpace1	639566.8550	87290.44213	10
melPDVowelSpace1	575633.9435	107605.9790	10
melADVowelSpace1	438620.1855	105912.8823	10

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F
listener	Sphericity Assumed	2.108E+11	2	1.054E+11	12.183
	Greenhouse-Geisser	2.108E+11	1.895	1.113E+11	12.183
	Huynh-Feldt	2.108E+11	2.000	1.054E+11	12.183
	Lower-bound	2.108E+11	1.000	2.108E+11	12.183
Error(listener)	Sphericity Assumed	1.557E+11	18	8651356711	
	Greenhouse-Geisser	1.557E+11	17.052	9132083466	
	Huynh-Feldt	1.557E+11	18.000	8651356711	
	Lower-bound	1.557E+11	9.000	1.730E+10	

Tests of Within-Subjects Effects

Measure: MEASURE_1

Source		Sig.	Partial Eta Squared
listener	Sphericity Assumed	.000	.575
	Greenhouse-Geisser	.001	.575
	Huynh-Feldt	.000	.575
	Lower-bound	.007	.575
Error(listener)	Sphericity Assumed		
	Greenhouse-Geisser		
	Huynh-Feldt		
	Lower-bound		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	listener	Type III Sum of Squares	df	Mean Square	F	Sig.
listener	Linear	2.019E+11	1	2.019E+11	22.389	.001
	Quadratic	8901350221	1	8901350221	1.074	.327
Error(listener)	Linear	8.116E+10	9	9017872759		
	Quadratic	7.456E+10	9	8284840664		

Tests of Within-Subjects Contrasts

Measure: MEASURE_1

Source	listener	Partial Eta Squared
listener	Linear	.713
	Quadratic	.107
Error(listener)	Linear	
	Quadratic	

Estimated Marginal Means

listener

Measure: MEASURE_1

listener	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	639566.855	27603.662	577123.034	702010.676
2	575633.944	34027.998	498657.263	652610.624
3	438620.185	33492.594	362854.674	514385.697

```
T-TEST PAIRS=melIDVowelSpace1 melPDVowelSpace1 melIDVowelSpace1 WITH melPDVowelSpace1
    melADVowelSpace1 melADVowelSpace1 (PAIRED)
  /ES DISPLAY(TRUE) STANDARDIZER(SD)
  /CRITERIA=CI(.9500)
  /MISSING=ANALYSIS.
```

T-Test

Notes

Output Created		16-MAY-2022 14:37:22
Comments		
Input	Data	C:\Users\cooperr\Desktop\MY RESEARCH\Pet directed speech study\Statistical Analyses for Puppy Paper\New Formants for Individual Moms2.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	30
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.

Notes

Syntax		T-TEST PAIRS=melIDVowelSpace1 melPDVowelSpace1 melIDVowelSpace1 WITH melPDVowelSpace1 melADVowelSpace1 melADVowelSpace1 (PAIRED) /ES DISPLAY(TRUE) STANDARDIZER(SD) /CRITERIA=CI(.9500) /MISSING=ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.02

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	melIDVowelSpace1	639566.8550	10	87290.44213	27603.66151
	melPDVowelSpace1	575633.9435	10	107605.9790	34027.99836
Pair 2	melPDVowelSpace1	575633.9435	10	107605.9790	34027.99836
	melADVowelSpace1	438620.1855	10	105912.8823	33492.59417
Pair 3	melIDVowelSpace1	639566.8550	10	87290.44213	27603.66151
	melADVowelSpace1	438620.1855	10	105912.8823	33492.59417

Paired Samples Test

		Paired Differences			
		Mean	Std. Deviation	Std. Error Mean	95% Confidence ... Lower
Pair 1	melIDVowelSpace1 - melPDVowelSpace1	63932.91150	116023.5234	36689.85960	-19065.31721
Pair 2	melPDVowelSpace1 - melADVowelSpace1	137013.7580	142866.8498	45178.46475	34812.97041
Pair 3	melIDVowelSpace1 - melADVowelSpace1	200946.6695	134297.2283	42468.51247	104876.2199

Paired Samples Test

		Paired ... 95% Confidence Interval of the ... Upper	t	df	Sig. (2-tailed)
Pair 1	melIDVowelSpace1 - melPDVowelSpace1	146931.1402	1.743	9	.115
Pair 2	melPDVowelSpace1 - melADVowelSpace1	239214.5457	3.033	9	.014
Pair 3	melIDVowelSpace1 - melADVowelSpace1	297017.1192	4.732	9	.001

Paired Samples Effect Sizes

			Standardizer[a]	Point Estimate	95% ... Lower
Pair 1	melIDVowelSpace1 - melPDVowelSpace1	Cohen's d	116023.5234	.551	-.130
		Hedges' correction	121154.8648	.528	-.125
Pair 2	melPDVowelSpace1 - melADVowelSpace1	Cohen's d	142866.8498	.959	.184
		Hedges' correction	149185.3838	.918	.176
Pair 3	melIDVowelSpace1 - melADVowelSpace1	Cohen's d	134297.2283	1.496	.558
		Hedges' correction	140236.7559	1.433	.534

Paired Samples Effect Sizes

			95% ... Upper
Pair 1	melIDVowelSpace1 - melPDVowelSpace1	Cohen's d	1.207
		Hedges' correction	1.156
Pair 2	melPDVowelSpace1 - melADVowelSpace1	Cohen's d	1.700
		Hedges' correction	1.628
Pair 3	melIDVowelSpace1 - melADVowelSpace1	Cohen's d	2.398
		Hedges' correction	2.297

a. The denominator used in estimating the effect sizes.
Cohen's d uses the sample standard deviation of the mean difference.
Hedges' correction uses the sample standard deviation of the mean difference, plus a correction factor.