

Data written to the working file.

36 variables and 28 cases written.

Variable: Head\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: Head\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: Head\_amp\_7\_width\_4 Type: Number Format : F18.16  
Variable: Head\_amp\_25\_width\_1 Type: Number Format : F18.15  
Variable: Head\_amp\_25\_width\_2 Type: Number Format : F18.15  
Variable: Head\_amp\_25\_width\_4 Type: Number Format : F18.15  
Variable: Head\_amp\_40\_width\_1 Type: Number Format : F18.15  
Variable: Head\_amp\_40\_width\_2 Type: Number Format : F18.15  
Variable: Head\_amp\_40\_width\_4 Type: Number Format : F18.15  
Variable: High\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: High\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: High\_amp\_7\_width\_4 Type: Number Format : F18.16  
Variable: High\_amp\_25\_width\_1 Type: Number Format : F18.15  
Variable: High\_amp\_25\_width\_2 Type: Number Format : F18.15  
Variable: High\_amp\_25\_width\_4 Type: Number Format : F18.15  
Variable: High\_amp\_40\_width\_1 Type: Number Format : F18.15  
Variable: High\_amp\_40\_width\_2 Type: Number Format : F18.15  
Variable: High\_amp\_40\_width\_4 Type: Number Format : F18.15  
Variable: Low\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: Low\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: Low\_amp\_7\_width\_4 Type: Number Format : F18.16  
Variable: Low\_amp\_25\_width\_1 Type: Number Format : F18.15  
Variable: Low\_amp\_25\_width\_2 Type: Number Format : F18.15  
Variable: Low\_amp\_25\_width\_4 Type: Number Format : F18.15  
Variable: Low\_amp\_40\_width\_1 Type: Number Format : F18.15  
Variable: Low\_amp\_40\_width\_2 Type: Number Format : F18.15  
Variable: Low\_amp\_40\_width\_4 Type: Number Format : F18.15  
Variable: Mid\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: Mid\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: Mid\_amp\_7\_width\_4 Type: Number Format : F18.16  
Variable: Mid\_amp\_25\_width\_1 Type: Number Format : F18.15  
Variable: Mid\_amp\_25\_width\_2 Type: Number Format : F18.15  
Variable: Mid\_amp\_25\_width\_4 Type: Number Format : F18.15  
Variable: Mid\_amp\_40\_width\_1 Type: Number Format : F18.15  
Variable: Mid\_amp\_40\_width\_2 Type: Number Format : F18.15  
Variable: Mid\_amp\_40\_width\_4 Type: Number Format : F18.15

Substitute the following to build syntax for these data.

/VARIABLES=

Head\_amp\_7\_width\_1 F18.16  
Head\_amp\_7\_width\_2 F18.16  
Head\_amp\_7\_width\_4 F18.16  
Head\_amp\_25\_width\_1 F18.15  
Head\_amp\_25\_width\_2 F18.15  
Head\_amp\_25\_width\_4 F18.15  
Head\_amp\_40\_width\_1 F18.15  
Head\_amp\_40\_width\_2 F18.15  
Head\_amp\_40\_width\_4 F18.15  
High\_amp\_7\_width\_1 F18.16  
High\_amp\_7\_width\_2 F18.16  
High\_amp\_7\_width\_4 F18.16  
High\_amp\_25\_width\_1 F18.15  
High\_amp\_25\_width\_2 F18.15  
High\_amp\_25\_width\_4 F18.15  
High\_amp\_40\_width\_1 F18.15

High\_amp\_40\_width\_2 F18.15  
 High\_amp\_40\_width\_4 F18.15  
 Low\_amp\_7\_width\_1 F18.16  
 Low\_amp\_7\_width\_2 F18.16  
 Low\_amp\_7\_width\_4 F18.16  
 Low\_amp\_25\_width\_1 F18.15  
 Low\_amp\_25\_width\_2 F18.15  
 Low\_amp\_25\_width\_4 F18.15  
 Low\_amp\_40\_width\_1 F18.15  
 Low\_amp\_40\_width\_2 F18.15  
 Low\_amp\_40\_width\_4 F18.15  
 Mid\_amp\_7\_width\_1 F18.16  
 Mid\_amp\_7\_width\_2 F18.16  
 Mid\_amp\_7\_width\_4 F18.16  
 Mid\_amp\_25\_width\_1 F18.15  
 Mid\_amp\_25\_width\_2 F18.15  
 Mid\_amp\_25\_width\_4 F18.15  
 Mid\_amp\_40\_width\_1 F18.15  
 Mid\_amp\_40\_width\_2 F18.15  
 Mid\_amp\_40\_width\_4 F18.15

Data written to the working file.

36 variables and 28 cases written.

Variable: Head\_amp\_7\_width\_1 Type: Number Format : F20.18  
 Variable: Head\_amp\_7\_width\_2 Type: Number Format : F20.18  
 Variable: Head\_amp\_7\_width\_4 Type: Number Format : F20.18  
 Variable: Head\_amp\_25\_width\_1 Type: Number Format : F20.18  
 Variable: Head\_amp\_25\_width\_2 Type: Number Format : F20.18  
 Variable: Head\_amp\_25\_width\_4 Type: Number Format : F20.18  
 Variable: Head\_amp\_40\_width\_1 Type: Number Format : F19.17  
 Variable: Head\_amp\_40\_width\_2 Type: Number Format : F20.18  
 Variable: Head\_amp\_40\_width\_4 Type: Number Format : F20.18  
 Variable: High\_amp\_7\_width\_1 Type: Number Format : F20.18  
 Variable: High\_amp\_7\_width\_2 Type: Number Format : F20.18  
 Variable: High\_amp\_7\_width\_4 Type: Number Format : F20.18  
 Variable: High\_amp\_25\_width\_1 Type: Number Format : F20.18  
 Variable: High\_amp\_25\_width\_2 Type: Number Format : F20.18  
 Variable: High\_amp\_25\_width\_4 Type: Number Format : F20.18  
 Variable: High\_amp\_40\_width\_1 Type: Number Format : F20.18  
 Variable: High\_amp\_40\_width\_2 Type: Number Format : F20.18  
 Variable: High\_amp\_40\_width\_4 Type: Number Format : F20.18  
 Variable: Low\_amp\_7\_width\_1 Type: Number Format : F20.18  
 Variable: Low\_amp\_7\_width\_2 Type: Number Format : F20.18  
 Variable: Low\_amp\_7\_width\_4 Type: Number Format : F20.18  
 Variable: Low\_amp\_25\_width\_1 Type: Number Format : F19.17  
 Variable: Low\_amp\_25\_width\_2 Type: Number Format : F20.18  
 Variable: Low\_amp\_25\_width\_4 Type: Number Format : F20.18  
 Variable: Low\_amp\_40\_width\_1 Type: Number Format : F20.18  
 Variable: Low\_amp\_40\_width\_2 Type: Number Format : F20.18  
 Variable: Low\_amp\_40\_width\_4 Type: Number Format : F20.18  
 Variable: Mid\_amp\_7\_width\_1 Type: Number Format : F20.18  
 Variable: Mid\_amp\_7\_width\_2 Type: Number Format : F20.18  
 Variable: Mid\_amp\_7\_width\_4 Type: Number Format : F20.18  
 Variable: Mid\_amp\_25\_width\_1 Type: Number Format : F20.18  
 Variable: Mid\_amp\_25\_width\_2 Type: Number Format : F20.18  
 Variable: Mid\_amp\_25\_width\_4 Type: Number Format : F20.18  
 Variable: Mid\_amp\_40\_width\_1 Type: Number Format : F20.18

Variable: Mid\_amp\_40\_width\_2 Type: Number Format : F20.18  
Variable: Mid\_amp\_40\_width\_4 Type: Number Format : F20.18

Substitute the following to build syntax for these data.

/VARIABLES=

Head\_amp\_7\_width\_1 F20.18  
Head\_amp\_7\_width\_2 F20.18  
Head\_amp\_7\_width\_4 F20.18  
Head\_amp\_25\_width\_1 F20.18  
Head\_amp\_25\_width\_2 F20.18  
Head\_amp\_25\_width\_4 F20.18  
Head\_amp\_40\_width\_1 F19.17  
Head\_amp\_40\_width\_2 F20.18  
Head\_amp\_40\_width\_4 F20.18  
High\_amp\_7\_width\_1 F20.18  
High\_amp\_7\_width\_2 F20.18  
High\_amp\_7\_width\_4 F20.18  
High\_amp\_25\_width\_1 F20.18  
High\_amp\_25\_width\_2 F20.18  
High\_amp\_25\_width\_4 F20.18  
High\_amp\_40\_width\_1 F20.18  
High\_amp\_40\_width\_2 F20.18  
High\_amp\_40\_width\_4 F20.18  
Low\_amp\_7\_width\_1 F20.18  
Low\_amp\_7\_width\_2 F20.18  
Low\_amp\_7\_width\_4 F20.18  
Low\_amp\_25\_width\_1 F19.17  
Low\_amp\_25\_width\_2 F20.18  
Low\_amp\_25\_width\_4 F20.18  
Low\_amp\_40\_width\_1 F20.18  
Low\_amp\_40\_width\_2 F20.18  
Low\_amp\_40\_width\_4 F20.18  
Mid\_amp\_7\_width\_1 F20.18  
Mid\_amp\_7\_width\_2 F20.18  
Mid\_amp\_7\_width\_4 F20.18  
Mid\_amp\_25\_width\_1 F20.18  
Mid\_amp\_25\_width\_2 F20.18  
Mid\_amp\_25\_width\_4 F20.18  
Mid\_amp\_40\_width\_1 F20.18  
Mid\_amp\_40\_width\_2 F20.18  
Mid\_amp\_40\_width\_4 F20.18

Data written to the working file.

36 variables and 28 cases written.

Variable: Head\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: Head\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: Head\_amp\_7\_width\_4 Type: Number Format : F19.17  
Variable: Head\_amp\_25\_width\_1 Type: Number Format : F18.16  
Variable: Head\_amp\_25\_width\_2 Type: Number Format : F18.16  
Variable: Head\_amp\_25\_width\_4 Type: Number Format : F18.16  
Variable: Head\_amp\_40\_width\_1 Type: Number Format : F18.16  
Variable: Head\_amp\_40\_width\_2 Type: Number Format : F18.16  
Variable: Head\_amp\_40\_width\_4 Type: Number Format : F18.16  
Variable: High\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: High\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: High\_amp\_7\_width\_4 Type: Number Format : F19.17  
Variable: High\_amp\_25\_width\_1 Type: Number Format : F18.16

Variable: High\_amp\_25\_width\_2 Type: Number Format : F18.16  
 Variable: High\_amp\_25\_width\_4 Type: Number Format : F18.16  
 Variable: High\_amp\_40\_width\_1 Type: Number Format : F18.16  
 Variable: High\_amp\_40\_width\_2 Type: Number Format : F18.16  
 Variable: High\_amp\_40\_width\_4 Type: Number Format : F18.16  
 Variable: Low\_amp\_7\_width\_1 Type: Number Format : F18.16  
 Variable: Low\_amp\_7\_width\_2 Type: Number Format : F18.16  
 Variable: Low\_amp\_7\_width\_4 Type: Number Format : F18.16  
 Variable: Low\_amp\_25\_width\_1 Type: Number Format : F18.16  
 Variable: Low\_amp\_25\_width\_2 Type: Number Format : F18.16  
 Variable: Low\_amp\_25\_width\_4 Type: Number Format : F18.16  
 Variable: Low\_amp\_40\_width\_1 Type: Number Format : F18.16  
 Variable: Low\_amp\_40\_width\_2 Type: Number Format : F18.16  
 Variable: Low\_amp\_40\_width\_4 Type: Number Format : F18.16  
 Variable: Mid\_amp\_7\_width\_1 Type: Number Format : F18.16  
 Variable: Mid\_amp\_7\_width\_2 Type: Number Format : F18.16  
 Variable: Mid\_amp\_7\_width\_4 Type: Number Format : F19.17  
 Variable: Mid\_amp\_25\_width\_1 Type: Number Format : F18.16  
 Variable: Mid\_amp\_25\_width\_2 Type: Number Format : F18.16  
 Variable: Mid\_amp\_25\_width\_4 Type: Number Format : F18.16  
 Variable: Mid\_amp\_40\_width\_1 Type: Number Format : F18.16  
 Variable: Mid\_amp\_40\_width\_2 Type: Number Format : F18.16  
 Variable: Mid\_amp\_40\_width\_4 Type: Number Format : F18.16

Substitute the following to build syntax for these data.

/VARIABLES=

Head\_amp\_7\_width\_1 F18.16  
 Head\_amp\_7\_width\_2 F18.16  
 Head\_amp\_7\_width\_4 F19.17  
 Head\_amp\_25\_width\_1 F18.16  
 Head\_amp\_25\_width\_2 F18.16  
 Head\_amp\_25\_width\_4 F18.16  
 Head\_amp\_40\_width\_1 F18.16  
 Head\_amp\_40\_width\_2 F18.16  
 Head\_amp\_40\_width\_4 F18.16  
 High\_amp\_7\_width\_1 F18.16  
 High\_amp\_7\_width\_2 F18.16  
 High\_amp\_7\_width\_4 F19.17  
 High\_amp\_25\_width\_1 F18.16  
 High\_amp\_25\_width\_2 F18.16  
 High\_amp\_25\_width\_4 F18.16  
 High\_amp\_40\_width\_1 F18.16  
 High\_amp\_40\_width\_2 F18.16  
 High\_amp\_40\_width\_4 F18.16  
 Low\_amp\_7\_width\_1 F18.16  
 Low\_amp\_7\_width\_2 F18.16  
 Low\_amp\_7\_width\_4 F18.16  
 Low\_amp\_25\_width\_1 F18.16  
 Low\_amp\_25\_width\_2 F18.16  
 Low\_amp\_25\_width\_4 F18.16  
 Low\_amp\_40\_width\_1 F18.16  
 Low\_amp\_40\_width\_2 F18.16  
 Low\_amp\_40\_width\_4 F18.16  
 Mid\_amp\_7\_width\_1 F18.16  
 Mid\_amp\_7\_width\_2 F18.16  
 Mid\_amp\_7\_width\_4 F19.17  
 Mid\_amp\_25\_width\_1 F18.16

Mid\_amp\_25\_width\_2 F18.16  
Mid\_amp\_25\_width\_4 F18.16  
Mid\_amp\_40\_width\_1 F18.16  
Mid\_amp\_40\_width\_2 F18.16  
Mid\_amp\_40\_width\_4 F18.16

Data written to the working file.

36 variables and 28 cases written.

Variable: Head\_amp\_7\_width\_1 Type: Number Format : F4.2  
Variable: Head\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: Head\_amp\_7\_width\_4 Type: Number Format : F19.17  
Variable: Head\_amp\_25\_width\_1 Type: Number Format : F18.16  
Variable: Head\_amp\_25\_width\_2 Type: Number Format : F18.16  
Variable: Head\_amp\_25\_width\_4 Type: Number Format : F19.17  
Variable: Head\_amp\_40\_width\_1 Type: Number Format : F18.16  
Variable: Head\_amp\_40\_width\_2 Type: Number Format : F18.16  
Variable: Head\_amp\_40\_width\_4 Type: Number Format : F19.17  
Variable: High\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: High\_amp\_7\_width\_2 Type: Number Format : F19.17  
Variable: High\_amp\_7\_width\_4 Type: Number Format : F18.16  
Variable: High\_amp\_25\_width\_1 Type: Number Format : F18.16  
Variable: High\_amp\_25\_width\_2 Type: Number Format : F18.16  
Variable: High\_amp\_25\_width\_4 Type: Number Format : F18.16  
Variable: High\_amp\_40\_width\_1 Type: Number Format : F18.16  
Variable: High\_amp\_40\_width\_2 Type: Number Format : F18.16  
Variable: High\_amp\_40\_width\_4 Type: Number Format : F18.16  
Variable: Low\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: Low\_amp\_7\_width\_2 Type: Number Format : F4.2  
Variable: Low\_amp\_7\_width\_4 Type: Number Format : F19.17  
Variable: Low\_amp\_25\_width\_1 Type: Number Format : F18.16  
Variable: Low\_amp\_25\_width\_2 Type: Number Format : F18.16  
Variable: Low\_amp\_25\_width\_4 Type: Number Format : F18.16  
Variable: Low\_amp\_40\_width\_1 Type: Number Format : F18.16  
Variable: Low\_amp\_40\_width\_2 Type: Number Format : F18.16  
Variable: Low\_amp\_40\_width\_4 Type: Number Format : F19.17  
Variable: Mid\_amp\_7\_width\_1 Type: Number Format : F18.16  
Variable: Mid\_amp\_7\_width\_2 Type: Number Format : F18.16  
Variable: Mid\_amp\_7\_width\_4 Type: Number Format : F18.16  
Variable: Mid\_amp\_25\_width\_1 Type: Number Format : F18.16  
Variable: Mid\_amp\_25\_width\_2 Type: Number Format : F19.17  
Variable: Mid\_amp\_25\_width\_4 Type: Number Format : F19.17  
Variable: Mid\_amp\_40\_width\_1 Type: Number Format : F18.16  
Variable: Mid\_amp\_40\_width\_2 Type: Number Format : F18.16  
Variable: Mid\_amp\_40\_width\_4 Type: Number Format : F18.16

Substitute the following to build syntax for these data.

/VARIABLES=

Head\_amp\_7\_width\_1 F4.2  
Head\_amp\_7\_width\_2 F18.16  
Head\_amp\_7\_width\_4 F19.17  
Head\_amp\_25\_width\_1 F18.16  
Head\_amp\_25\_width\_2 F18.16  
Head\_amp\_25\_width\_4 F19.17  
Head\_amp\_40\_width\_1 F18.16  
Head\_amp\_40\_width\_2 F18.16  
Head\_amp\_40\_width\_4 F19.17  
High\_amp\_7\_width\_1 F18.16

High\_amp\_7\_width\_2 F19.17  
 High\_amp\_7\_width\_4 F18.16  
 High\_amp\_25\_width\_1 F18.16  
 High\_amp\_25\_width\_2 F18.16  
 High\_amp\_25\_width\_4 F18.16  
 High\_amp\_40\_width\_1 F18.16  
 High\_amp\_40\_width\_2 F18.16  
 High\_amp\_40\_width\_4 F18.16  
 Low\_amp\_7\_width\_1 F18.16  
 Low\_amp\_7\_width\_2 F4.2  
 Low\_amp\_7\_width\_4 F19.17  
 Low\_amp\_25\_width\_1 F18.16  
 Low\_amp\_25\_width\_2 F18.16  
 Low\_amp\_25\_width\_4 F18.16  
 Low\_amp\_40\_width\_1 F18.16  
 Low\_amp\_40\_width\_2 F18.16  
 Low\_amp\_40\_width\_4 F19.17  
 Mid\_amp\_7\_width\_1 F18.16  
 Mid\_amp\_7\_width\_2 F18.16  
 Mid\_amp\_7\_width\_4 F18.16  
 Mid\_amp\_25\_width\_1 F18.16  
 Mid\_amp\_25\_width\_2 F19.17  
 Mid\_amp\_25\_width\_4 F19.17  
 Mid\_amp\_40\_width\_1 F18.16  
 Mid\_amp\_40\_width\_2 F18.16  
 Mid\_amp\_40\_width\_4 F18.16

## Effective Width

### Mauchly's Test of Sphericity<sup>a</sup>

Measure: EffectiveWidth

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon <sup>b</sup> Greenhouse-Geisser
Cursor	.707	8.911	5	.113	.837
Amp	.815	5.323	2	.070	.844
Width	.731	8.131	2	.017	.788
Cursor * Amp	.416	21.713	20	.360	.814
Cursor * Width	.433	20.729	20	.417	.811
Amp * Width	.591	13.349	9	.148	.826
Cursor * Amp * Width	.039	73.884	77	.617	.708

## Mauchly's Test of Sphericity<sup>a</sup>

Measure: EffectiveWidth

Within Subjects Effect	Epsilon <sup>b</sup>	
	Huynh-Feldt	Lower-bound
Cursor	.929	.333
Amp	.894	.500
Width	.829	.500
Cursor * Amp	1.000	.167
Cursor * Width	1.000	.167
Amp * Width	.955	.250
Cursor * Amp * Width	1.000	.083

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

a. Design: Intercept

Within Subjects Design: Cursor + Amp + Width + Cursor \* Amp + Cursor \* Width + Amp \* Width + Cursor \* Amp \* Width

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

## Tests of Within-Subjects Effects

Measure: EffectiveWidth

Source		Type III Sum of Squares	df	Mean Square
Cursor	Sphericity Assumed	2.532	3	.844
	Greenhouse-Geisser	2.532	2.510	1.009
	Huynh-Feldt	2.532	2.788	.908
	Lower-bound	2.532	1.000	2.532
Error(Cursor)	Sphericity Assumed	6.402	81	.079
	Greenhouse-Geisser	6.402	67.761	.094
	Huynh-Feldt	6.402	75.267	.085
	Lower-bound	6.402	27.000	.237
Amp	Sphericity Assumed	16.173	2	8.087
	Greenhouse-Geisser	16.173	1.688	9.584
	Huynh-Feldt	16.173	1.788	9.047
	Lower-bound	16.173	1.000	16.173
Error(Amp)	Sphericity Assumed	1.273	54	.024
	Greenhouse-Geisser	1.273	45.565	.028
	Huynh-Feldt	1.273	48.270	.026
	Lower-bound	1.273	27.000	.047
Width	Sphericity Assumed	28.069	2	14.035
	Greenhouse-Geisser	28.069	1.577	17.803
	Huynh-Feldt	28.069	1.658	16.932
	Lower-bound	28.069	1.000	28.069
Error(Width)	Sphericity Assumed	1.393	54	.026
	Greenhouse-Geisser	1.393	42.568	.033

### Tests of Within-Subjects Effects

Measure: EffectiveWidth

Source		F	Sig.	Partial Eta Squared
Cursor	Sphericity Assumed	10.678	<.001	.283
	Greenhouse-Geisser	10.678	<.001	.283
	Huynh-Feldt	10.678	<.001	.283
	Lower-bound	10.678	.003	.283
Error(Cursor)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Amp	Sphericity Assumed	342.950	<.001	.927
	Greenhouse-Geisser	342.950	<.001	.927
	Huynh-Feldt	342.950	<.001	.927
	Lower-bound	342.950	<.001	.927
Error(Amp)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Width	Sphericity Assumed	544.066	<.001	.953
	Greenhouse-Geisser	544.066	<.001	.953
	Huynh-Feldt	544.066	<.001	.953
	Lower-bound	544.066	<.001	.953
Error(Width)	Sphericity Assumed			
	Greenhouse-Geisser			



### Tests of Within-Subjects Effects

Measure: EffectiveWidth

Source		Type III Sum of Squares	df	Mean Square
	Huynh-Feldt	1.393	44.758	.031
	Lower-bound	1.393	27.000	.052
Cursor * Amp	Sphericity Assumed	.296	6	.049
	Greenhouse-Geisser	.296	4.884	.061
	Huynh-Feldt	.296	6.000	.049
	Lower-bound	.296	1.000	.296
Error(Cursor*Amp)	Sphericity Assumed	2.485	162	.015
	Greenhouse-Geisser	2.485	131.876	.019
	Huynh-Feldt	2.485	162.000	.015
	Lower-bound	2.485	27.000	.092
Cursor * Width	Sphericity Assumed	.405	6	.068
	Greenhouse-Geisser	.405	4.865	.083
	Huynh-Feldt	.405	6.000	.068
	Lower-bound	.405	1.000	.405
Error(Cursor*Width)	Sphericity Assumed	2.834	162	.017
	Greenhouse-Geisser	2.834	131.356	.022
	Huynh-Feldt	2.834	162.000	.017
	Lower-bound	2.834	27.000	.105
Amp * Width	Sphericity Assumed	.760	4	.190
	Greenhouse-Geisser	.760	3.304	.230
	Huynh-Feldt	.760	3.820	.199
	Lower-bound	.760	1.000	.760
Error(Amp*Width)	Sphericity Assumed	1.714	108	.016
	Greenhouse-Geisser	1.714	89.207	.019
	Huynh-Feldt	1.714	103.132	.017
	Lower-bound	1.714	27.000	.063
Cursor * Amp * Width	Sphericity Assumed	.276	12	.023
	Greenhouse-Geisser	.276	8.498	.032
	Huynh-Feldt	.276	12.000	.023
	Lower-bound	.276	1.000	.276
Error(Cursor*Amp*Width)	Sphericity Assumed	4.170	324	.013
	Greenhouse-Geisser	4.170	229.445	.018
	Huynh-Feldt	4.170	324.000	.013
	Lower-bound	4.170	27.000	.154

### Tests of Within-Subjects Effects

Measure: EffectiveWidth

Source		F	Sig.	Partial Eta Squared
	Huynh-Feldt			
	Lower-bound			
Cursor * Amp	Sphericity Assumed	3.215	.005	.106
	Greenhouse-Geisser	3.215	.010	.106
	Huynh-Feldt	3.215	.005	.106
	Lower-bound	3.215	.084	.106
Error(Cursor*Amp)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Cursor * Width	Sphericity Assumed	3.861	.001	.125
	Greenhouse-Geisser	3.861	.003	.125
	Huynh-Feldt	3.861	.001	.125
	Lower-bound	3.861	.060	.125
Error(Cursor*Width)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Amp * Width	Sphericity Assumed	11.973	<.001	.307
	Greenhouse-Geisser	11.973	<.001	.307
	Huynh-Feldt	11.973	<.001	.307
	Lower-bound	11.973	.002	.307
Error(Amp*Width)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			
Cursor * Amp * Width	Sphericity Assumed	1.785	.050	.062
	Greenhouse-Geisser	1.785	.076	.062
	Huynh-Feldt	1.785	.050	.062
	Lower-bound	1.785	.193	.062
Error(Cursor*Amp*Width)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			

### Estimated Marginal Means

## 1. Grand Mean

Measure: EffectiveWidth

Mean	Std. Error	95% Confidence Interval	
		Lower Bound	Upper Bound
.582	.020	.541	.624

## 2. Cursor

### Estimates

Measure: EffectiveWidth

Cursor	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	.507	.028	.451	.564
2	.566	.025	.515	.617
3	.630	.024	.580	.679
4	.626	.024	.577	.676

### Pairwise Comparisons

Measure: EffectiveWidth

(I) Cursor	(J) Cursor	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	-.059	.027	.237	-.136	.018
	3	-.122 <sup>*</sup>	.030	.002	-.208	-.037
	4	-.119 <sup>*</sup>	.024	<.001	-.186	-.051
2	1	.059	.027	.237	-.018	.136
	3	-.064 <sup>*</sup>	.021	.031	-.123	-.004
	4	-.060	.026	.165	-.133	.013
3	1	.122 <sup>*</sup>	.030	.002	.037	.208
	2	.064 <sup>*</sup>	.021	.031	.004	.123
	4	.004	.022	1.000	-.058	.065
4	1	.119 <sup>*</sup>	.024	<.001	.051	.186
	2	.060	.026	.165	-.013	.133
	3	-.004	.022	1.000	-.065	.058

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	.499	8.316 <sup>a</sup>	3.000	25.000	<.001	.499
Wilks' lambda	.501	8.316 <sup>a</sup>	3.000	25.000	<.001	.499
Hotelling's trace	.998	8.316 <sup>a</sup>	3.000	25.000	<.001	.499
Roy's largest root	.998	8.316 <sup>a</sup>	3.000	25.000	<.001	.499

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

a. Exact statistic

### 3. Amp

#### Estimates

Measure: EffectiveWidth

Amp	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	.415	.022	.370	.460
2	.611	.022	.566	.657
3	.721	.019	.681	.761

#### Pairwise Comparisons

Measure: EffectiveWidth

(I) Amp	(J) Amp	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	-.197 <sup>*</sup>	.012	<.001	-.226	-.167
	3	-.306 <sup>*</sup>	.014	<.001	-.342	-.270
2	1	.197 <sup>*</sup>	.012	<.001	.167	.226
	3	-.110 <sup>*</sup>	.010	<.001	-.134	-.085
3	1	.306 <sup>*</sup>	.014	<.001	.270	.342
	2	.110 <sup>*</sup>	.010	<.001	.085	.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	.947	231.284 <sup>a</sup>	2.000	26.000	<.001	.947
Wilks' lambda	.053	231.284 <sup>a</sup>	2.000	26.000	<.001	.947
Hotelling's trace	17.791	231.284 <sup>a</sup>	2.000	26.000	<.001	.947
Roy's largest root	17.791	231.284 <sup>a</sup>	2.000	26.000	<.001	.947

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

a. Exact statistic

## 4. Width

### Estimates

Measure: EffectiveWidth

Width	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	.780	.022	.735	.825
2	.596	.024	.547	.644
3	.372	.018	.335	.409

### Pairwise Comparisons

Measure: EffectiveWidth

(I) Width	(J) Width	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	.184 <sup>*</sup>	.009	<.001	.161	.208
	3	.408 <sup>*</sup>	.015	<.001	.370	.446
2	1	-.184 <sup>*</sup>	.009	<.001	-.208	-.161
	3	.224 <sup>*</sup>	.012	<.001	.193	.255
3	1	-.408 <sup>*</sup>	.015	<.001	-.446	-.370
	2	-.224 <sup>*</sup>	.012	<.001	-.255	-.193

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	.966	368.342 <sup>a</sup>	2.000	26.000	<.001	.966
Wilks' lambda	.034	368.342 <sup>a</sup>	2.000	26.000	<.001	.966
Hotelling's trace	28.334	368.342 <sup>a</sup>	2.000	26.000	<.001	.966
Roy's largest root	28.334	368.342 <sup>a</sup>	2.000	26.000	<.001	.966

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

a. Exact statistic

### 5. Cursor \* Amp

#### Estimates

Measure: EffectiveWidth

Cursor	Amp	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	.336	.027	.281	.391
	2	.537	.032	.471	.604
	3	.649	.029	.589	.709
2	1	.432	.029	.373	.491
	2	.565	.032	.499	.631
	3	.702	.024	.651	.752
3	1	.435	.029	.374	.495
	2	.684	.029	.625	.744
	3	.771	.021	.729	.813
4	1	.457	.026	.403	.510
	2	.659	.029	.600	.718
	3	.763	.025	.711	.814

## Pairwise Comparisons

Measure: EffectiveWidth

Amp	(I) Cursor	(J) Cursor	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for ...
						Lower Bound
1	1	2	-.096 <sup>*</sup>	.031	.029	-.185
		3	-.098 <sup>*</sup>	.034	.042	-.195
		4	-.121 <sup>*</sup>	.024	<.001	-.189
	2	1	.096 <sup>*</sup>	.031	.029	.007
		3	-.003	.025	1.000	-.074
		4	-.025	.027	1.000	-.102
	3	1	.098 <sup>*</sup>	.034	.042	.002
		2	.003	.025	1.000	-.069
		4	-.022	.024	1.000	-.091
	4	1	.121 <sup>*</sup>	.024	<.001	.053
		2	.025	.027	1.000	-.053
		3	.022	.024	1.000	-.047
2	1	2	-.027	.036	1.000	-.129
		3	-.147 <sup>*</sup>	.039	.005	-.258
		4	-.122 <sup>*</sup>	.031	.004	-.211
	2	1	.027	.036	1.000	-.074
		3	-.120 <sup>*</sup>	.030	.003	-.205
		4	-.094	.037	.094	-.198
	3	1	.147 <sup>*</sup>	.039	.005	.035
		2	.120 <sup>*</sup>	.030	.003	.034
		4	.025	.032	1.000	-.065
	4	1	.122 <sup>*</sup>	.031	.004	.032
		2	.094	.037	.094	-.010
		3	-.025	.032	1.000	-.116
3	1	2	-.053	.030	.518	-.137
		3	-.122 <sup>*</sup>	.027	<.001	-.200
		4	-.114 <sup>*</sup>	.026	<.001	-.187
	2	1	.053	.030	.518	-.032
		3	-.069 <sup>*</sup>	.022	.021	-.131
		4	-.061	.029	.284	-.145
	3	1	.122 <sup>*</sup>	.027	<.001	.044
		2	.069 <sup>*</sup>	.022	.021	.007
		4	.008	.020	1.000	-.048
	4	1	.114 <sup>*</sup>	.026	<.001	.041
		2	.061	.029	.284	-.023
		3	-.008	.020	1.000	-.064

## Pairwise Comparisons

Measure: EffectiveWidth

			95% Confidence Interval for <sup>b</sup> ...
Amp	(I) Cursor	(J) Cursor	Upper Bound
1	1	2	-.007
		3	-.002
		4	-.053
	2	1	.185
		3	.069
		4	.053
	3	1	.195
		2	.074
		4	.047
	4	1	.189
		2	.102
		3	.091
2	1	2	.074
		3	-.035
		4	-.032
	2	1	.129
		3	-.034
		4	.010
	3	1	.258
		2	.205
		4	.116
	4	1	.211
		2	.198
		3	.065
3	1	2	.032
		3	-.044
		4	-.041
	2	1	.137
		3	-.007
		4	.023
	3	1	.200
		2	.131
		4	.064
	4	1	.187
		2	.145
		3	.048

Based on estimated marginal means

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



b. Adjustment for multiple comparisons: Bonferroni.

#### Multivariate Tests

Amp		Value	F	Hypothesis df	Error df	Sig.
1	Pillai's trace	.501	8.358 <sup>a</sup>	3.000	25.000	<.001
	Wilks' lambda	.499	8.358 <sup>a</sup>	3.000	25.000	<.001
	Hotelling's trace	1.003	8.358 <sup>a</sup>	3.000	25.000	<.001
	Roy's largest root	1.003	8.358 <sup>a</sup>	3.000	25.000	<.001
2	Pillai's trace	.469	7.353 <sup>a</sup>	3.000	25.000	.001
	Wilks' lambda	.531	7.353 <sup>a</sup>	3.000	25.000	.001
	Hotelling's trace	.882	7.353 <sup>a</sup>	3.000	25.000	.001
	Roy's largest root	.882	7.353 <sup>a</sup>	3.000	25.000	.001
3	Pillai's trace	.490	8.001 <sup>a</sup>	3.000	25.000	<.001
	Wilks' lambda	.510	8.001 <sup>a</sup>	3.000	25.000	<.001
	Hotelling's trace	.960	8.001 <sup>a</sup>	3.000	25.000	<.001
	Roy's largest root	.960	8.001 <sup>a</sup>	3.000	25.000	<.001

#### Multivariate Tests

Amp		Partial Eta Squared
1	Pillai's trace	.501
	Wilks' lambda	.501
	Hotelling's trace	.501
	Roy's largest root	.501
2	Pillai's trace	.469
	Wilks' lambda	.469
	Hotelling's trace	.469
	Roy's largest root	.469
3	Pillai's trace	.490
	Wilks' lambda	.490
	Hotelling's trace	.490
	Roy's largest root	.490

Each F tests the multivariate simple effects of Cursor within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

## 7. Cursor \* Width

### Estimates

Measure: EffectiveWidth

Cursor	Width	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	.730	.032	.664	.796
	2	.510	.032	.444	.576
	3	.282	.027	.228	.337
2	1	.790	.026	.737	.843
	2	.580	.032	.514	.646
	3	.328	.027	.274	.383
3	1	.794	.024	.745	.842
	2	.651	.029	.592	.711
	3	.444	.026	.391	.498
4	1	.806	.025	.755	.857
	2	.641	.029	.582	.699
	3	.432	.028	.375	.489

### Pairwise Comparisons

Measure: EffectiveWidth

Width	(I) Cursor	(J) Cursor	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for <sup>b</sup> Lower Bound
1	1	2	-.060	.029	.292	-.142
		3	-.064	.026	.118	-.137
		4	-.076	.030	.108	-.161
	2	1	.060	.029	.292	-.023
		3	-.004	.019	1.000	-.059
		4	-.016	.025	1.000	-.089
	3	1	.064	.026	.118	-.009
		2	.004	.019	1.000	-.051
		4	-.012	.023	1.000	-.077
	4	1	.076	.030	.108	-.010
		2	.016	.025	1.000	-.057
		3	.012	.023	1.000	-.053
2	1	2	-.070	.034	.294	-.168
		3	-.142 <sup>*</sup>	.038	.005	-.250
		4	-.131 <sup>*</sup>	.031	.001	-.219
	2	1	.070	.034	.294	-.027
		3	-.071	.029	.120	-.153
		4	-.060	.032	.425	-.151
	3	1	.142 <sup>*</sup>	.038	.005	.034
		2	.071	.029	.120	-.011
		4	.011	.024	1.000	-.056

## Pairwise Comparisons

Measure: EffectiveWidth

			95% Confidence Interval for <sup>b</sup> ...
Width	(I) Cursor	(J) Cursor	Upper Bound
1	1	2	.023
		3	.009
		4	.010
	2	1	.142
		3	.051
		4	.057
	3	1	.137
		2	.059
		4	.053
	4	1	.161
		2	.089
		3	.077
2	1	2	.027
		3	-.034
		4	-.043
	2	1	.168
		3	.011
		4	.031
	3	1	.250
		2	.153
		4	.078

### Pairwise Comparisons

Measure: EffectiveWidth

Width	(I) Cursor	(J) Cursor	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for <sup>b</sup> ... Lower Bound
4		1	.131 <sup>*</sup>	.031	.001	.043
		2	.060	.032	.425	-.031
		3	-.011	.024	1.000	-.078
3	1	2	-.046	.032	.990	-.137
		3	-.162 <sup>*</sup>	.035	<.001	-.262
		4	-.150 <sup>*</sup>	.027	<.001	-.225
	2	1	.046	.032	.990	-.046
		3	-.116 <sup>*</sup>	.031	.005	-.205
		4	-.104 <sup>*</sup>	.036	.047	-.207
	3	1	.162 <sup>*</sup>	.035	<.001	.062
		2	.116 <sup>*</sup>	.031	.005	.028
		4	.012	.034	1.000	-.084
	4	1	.150 <sup>*</sup>	.027	<.001	.074
		2	.104 <sup>*</sup>	.036	.047	.001
		3	-.012	.034	1.000	-.108

### Pairwise Comparisons

Measure: EffectiveWidth

Width	(I) Cursor	(J) Cursor	95% Confidence Interval for <sup>b</sup> ... Upper Bound
4		1	.219
		2	.151
		3	.056
3	1	2	.046
		3	-.062
		4	-.074
	2	1	.137
		3	-.028
		4	-.001
	3	1	.262
		2	.205
		4	.108
	4	1	.225
		2	.207
		3	.084

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

### Multivariate Tests

Width		Value	F	Hypothesis df	Error df	Sig.
1	Pillai's trace	.217	2.307 <sup>a</sup>	3.000	25.000	.101
	Wilks' lambda	.783	2.307 <sup>a</sup>	3.000	25.000	.101
	Hotelling's trace	.277	2.307 <sup>a</sup>	3.000	25.000	.101
	Roy's largest root	.277	2.307 <sup>a</sup>	3.000	25.000	.101
2	Pillai's trace	.410	5.783 <sup>a</sup>	3.000	25.000	.004
	Wilks' lambda	.590	5.783 <sup>a</sup>	3.000	25.000	.004
	Hotelling's trace	.694	5.783 <sup>a</sup>	3.000	25.000	.004
	Roy's largest root	.694	5.783 <sup>a</sup>	3.000	25.000	.004
3	Pillai's trace	.598	12.407 <sup>a</sup>	3.000	25.000	<.001
	Wilks' lambda	.402	12.407 <sup>a</sup>	3.000	25.000	<.001
	Hotelling's trace	1.489	12.407 <sup>a</sup>	3.000	25.000	<.001
	Roy's largest root	1.489	12.407 <sup>a</sup>	3.000	25.000	<.001

### Multivariate Tests

Width		Partial Eta Squared
1	Pillai's trace	.217
	Wilks' lambda	.217
	Hotelling's trace	.217
	Roy's largest root	.217
2	Pillai's trace	.410
	Wilks' lambda	.410
	Hotelling's trace	.410
	Roy's largest root	.410
3	Pillai's trace	.598
	Wilks' lambda	.598
	Hotelling's trace	.598
	Roy's largest root	.598

Each F tests the multivariate simple effects of Cursor within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

## 9. Amp \* Width

### Estimates

Measure: EffectiveWidth

Amp	Width	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	.660	.029	.600	.719
	2	.407	.027	.352	.463
	3	.177	.015	.146	.209
2	1	.808	.023	.762	.855
	2	.627	.029	.568	.686
	3	.399	.023	.351	.447
3	1	.871	.018	.835	.908
	2	.752	.023	.706	.799
	3	.539	.023	.491	.587

### Pairwise Comparisons

Measure: EffectiveWidth

Width	(I) Amp	(J) Amp	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
						Lower Bound	Upper Bound
1	1	2	-.149 <sup>*</sup>	.016	<.001	-.189	-.108
		3	-.212 <sup>*</sup>	.019	<.001	-.259	-.164
	2	1	.149 <sup>*</sup>	.016	<.001	.108	.189
		3	-.063 <sup>*</sup>	.011	<.001	-.090	-.036
	3	1	.212 <sup>*</sup>	.019	<.001	.164	.259
		2	.063 <sup>*</sup>	.011	<.001	.036	.090
2	1	2	-.220 <sup>*</sup>	.021	<.001	-.273	-.167
		3	-.345 <sup>*</sup>	.021	<.001	-.399	-.292
	2	1	.220 <sup>*</sup>	.021	<.001	.167	.273
		3	-.125 <sup>*</sup>	.018	<.001	-.170	-.080
	3	1	.345 <sup>*</sup>	.021	<.001	.292	.399
		2	.125 <sup>*</sup>	.018	<.001	.080	.170
3	1	2	-.221 <sup>*</sup>	.018	<.001	-.268	-.174
		3	-.362 <sup>*</sup>	.022	<.001	-.417	-.306
	2	1	.221 <sup>*</sup>	.018	<.001	.174	.268
		3	-.141 <sup>*</sup>	.016	<.001	-.182	-.099
	3	1	.362 <sup>*</sup>	.022	<.001	.306	.417
		2	.141 <sup>*</sup>	.016	<.001	.099	.182

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

### Multivariate Tests

Width		Value	F	Hypothesis df	Error df	Sig.
1	Pillai's trace	.828	62.364 <sup>a</sup>	2.000	26.000	<.001
	Wilks' lambda	.172	62.364 <sup>a</sup>	2.000	26.000	<.001
	Hotelling's trace	4.797	62.364 <sup>a</sup>	2.000	26.000	<.001
	Roy's largest root	4.797	62.364 <sup>a</sup>	2.000	26.000	<.001
2	Pillai's trace	.910	130.962 <sup>a</sup>	2.000	26.000	<.001
	Wilks' lambda	.090	130.962 <sup>a</sup>	2.000	26.000	<.001
	Hotelling's trace	10.074	130.962 <sup>a</sup>	2.000	26.000	<.001
	Roy's largest root	10.074	130.962 <sup>a</sup>	2.000	26.000	<.001
3	Pillai's trace	.912	134.506 <sup>a</sup>	2.000	26.000	<.001
	Wilks' lambda	.088	134.506 <sup>a</sup>	2.000	26.000	<.001
	Hotelling's trace	10.347	134.506 <sup>a</sup>	2.000	26.000	<.001
	Roy's largest root	10.347	134.506 <sup>a</sup>	2.000	26.000	<.001

### Multivariate Tests

Width		Partial Eta Squared
1	Pillai's trace	.828
	Wilks' lambda	.828
	Hotelling's trace	.828
	Roy's largest root	.828
2	Pillai's trace	.910
	Wilks' lambda	.910
	Hotelling's trace	.910
	Roy's largest root	.910
3	Pillai's trace	.912
	Wilks' lambda	.912
	Hotelling's trace	.912
	Roy's largest root	.912

Each F tests the multivariate simple effects of Amp within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

## 10. Amp \* Width

### Estimates

Measure: EffectiveWidth

Amp	Width	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
1	1	.660	.029	.600	.719
	2	.407	.027	.352	.463
	3	.177	.015	.146	.209
2	1	.808	.023	.762	.855
	2	.627	.029	.568	.686
	3	.399	.023	.351	.447
3	1	.871	.018	.835	.908
	2	.752	.023	.706	.799
	3	.539	.023	.491	.587

### Pairwise Comparisons

Measure: EffectiveWidth

Amp	(I) Width	(J) Width	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for ... Lower Bound
1	1	2	.253 <sup>*</sup>	.017	<.001	.208
		3	.482 <sup>*</sup>	.021	<.001	.428
	2	1	-.253 <sup>*</sup>	.017	<.001	-.297
		3	.230 <sup>*</sup>	.019	<.001	.180
	3	1	-.482 <sup>*</sup>	.021	<.001	-.537
		2	-.230 <sup>*</sup>	.019	<.001	-.279
2	1	2	.181 <sup>*</sup>	.020	<.001	.131
		3	.410 <sup>*</sup>	.020	<.001	.358
	2	1	-.181 <sup>*</sup>	.020	<.001	-.231
		3	.228 <sup>*</sup>	.021	<.001	.176
	3	1	-.410 <sup>*</sup>	.020	<.001	-.461
		2	-.228 <sup>*</sup>	.021	<.001	-.281
3	1	2	.119 <sup>*</sup>	.011	<.001	.091
		3	.332 <sup>*</sup>	.019	<.001	.284
	2	1	-.119 <sup>*</sup>	.011	<.001	-.147
		3	.213 <sup>*</sup>	.016	<.001	.172
	3	1	-.332 <sup>*</sup>	.019	<.001	-.381
		2	-.213 <sup>*</sup>	.016	<.001	-.254



## Pairwise Comparisons

Measure: EffectiveWidth

			95% Confidence Interval for <sup>b</sup> ...
Amp	(I) Width	(J) Width	Upper Bound
1	1	2	.297
		3	.537
	2	1	-.208
		3	.279
	3	1	-.428
		2	-.180
2	1	2	.231
		3	.461
	2	1	-.131
		3	.281
	3	1	-.358
		2	-.176
3	1	2	.147
		3	.381
	2	1	-.091
		3	.254
	3	1	-.284
		2	-.172

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

### Multivariate Tests

Amp		Value	F	Hypothesis df	Error df	Sig.
1	Pillai's trace	.951	252.102 <sup>a</sup>	2.000	26.000	<.001
	Wilks' lambda	.049	252.102 <sup>a</sup>	2.000	26.000	<.001
	Hotelling's trace	19.392	252.102 <sup>a</sup>	2.000	26.000	<.001
	Roy's largest root	19.392	252.102 <sup>a</sup>	2.000	26.000	<.001
2	Pillai's trace	.939	199.857 <sup>a</sup>	2.000	26.000	<.001
	Wilks' lambda	.061	199.857 <sup>a</sup>	2.000	26.000	<.001
	Hotelling's trace	15.374	199.857 <sup>a</sup>	2.000	26.000	<.001
	Roy's largest root	15.374	199.857 <sup>a</sup>	2.000	26.000	<.001
3	Pillai's trace	.919	147.535 <sup>a</sup>	2.000	26.000	<.001
	Wilks' lambda	.081	147.535 <sup>a</sup>	2.000	26.000	<.001
	Hotelling's trace	11.349	147.535 <sup>a</sup>	2.000	26.000	<.001
	Roy's largest root	11.349	147.535 <sup>a</sup>	2.000	26.000	<.001

### Multivariate Tests

Amp		Partial Eta Squared
1	Pillai's trace	.951
	Wilks' lambda	.951
	Hotelling's trace	.951
	Roy's largest root	.951
2	Pillai's trace	.939
	Wilks' lambda	.939
	Hotelling's trace	.939
	Roy's largest root	.939
3	Pillai's trace	.919
	Wilks' lambda	.919
	Hotelling's trace	.919
	Roy's largest root	.919

Each F tests the multivariate simple effects of Width within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

## 11. Cursor \* Amp \* Width

## Estimates

Measure: EffectiveWidth

Cursor	Amp	Width	Mean	Std. Error	95% Confidence Interval	
					Lower Bound	Upper Bound
1	1	1	.605	.039	.526	.685
		2	.281	.034	.212	.350
		3	.122	.022	.077	.166
	2	1	.743	.039	.663	.823
		2	.578	.044	.488	.667
		3	.291	.033	.223	.360
	3	1	.842	.030	.780	.904
		2	.671	.036	.597	.744
		3	.434	.035	.362	.506
2	1	1	.701	.034	.630	.771
		2	.443	.042	.358	.528
		3	.152	.024	.103	.202
	2	1	.798	.037	.722	.873
		2	.562	.042	.476	.648
		3	.335	.034	.266	.403
	3	1	.871	.024	.822	.921
		2	.736	.033	.669	.803
		3	.498	.039	.418	.577
3	1	1	.655	.032	.590	.721
		2	.422	.043	.334	.511
		3	.226	.030	.165	.288
	2	1	.850	.029	.791	.910
		2	.708	.038	.629	.787
		3	.495	.037	.419	.570
	3	1	.876	.021	.832	.919
		2	.824	.024	.776	.873
		3	.612	.033	.545	.680
4	1	1	.678	.037	.603	.753
		2	.483	.036	.409	.557
		3	.209	.027	.153	.265
	2	1	.842	.025	.790	.894
		2	.661	.038	.583	.739
		3	.474	.041	.391	.558
	3	1	.897	.022	.852	.943
		2	.778	.030	.716	.840
		3	.613	.036	.539	.687

## Pairwise Comparisons

Measure: EffectiveWidth

Amp	Width	(I) Cursor	(J) Cursor	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for ... Lower Bound
1	1	1	2	-.095	.037	.093	-.200
			3	-.050	.034	.947	-.148
			4	-.073	.038	.392	-.180
		2	1	.095	.037	.093	-.010
			3	.045	.029	.772	-.037
			4	.023	.031	1.000	-.066
		3	1	.050	.034	.947	-.048
			2	-.045	.029	.772	-.128
			4	-.023	.031	1.000	-.110
		4	1	.073	.038	.392	-.035
			2	-.023	.031	1.000	-.111
			3	.023	.031	1.000	-.064
	2	1	2	-.162 <sup>*</sup>	.048	.013	-.298
			3	-.141	.054	.088	-.295
			4	-.202 <sup>*</sup>	.045	<.001	-.329
		2	1	.162 <sup>*</sup>	.048	.013	.026
			3	.021	.045	1.000	-.108
			4	-.040	.045	1.000	-.169
		3	1	.141	.054	.088	-.013
			2	-.021	.045	1.000	-.150
			4	-.061	.032	.400	-.151
		4	1	.202 <sup>*</sup>	.045	<.001	.074
			2	.040	.045	1.000	-.089
			3	.061	.032	.400	-.030
	3	1	2	-.031	.030	1.000	-.117
			3	-.104	.038	.063	-.213
			4	-.088 <sup>*</sup>	.024	.007	-.156
		2	1	.031	.030	1.000	-.055
			3	-.074	.032	.188	-.166
			4	-.057	.038	.847	-.164
		3	1	.104	.038	.063	-.004
			2	.074	.032	.188	-.019
			4	.017	.041	1.000	-.099
		4	1	.088 <sup>*</sup>	.024	.007	.019
			2	.057	.038	.847	-.050
			3	-.017	.041	1.000	-.133
2	1	1	2	-.055	.049	1.000	-.193
			3	-.107	.040	.075	-.222
			4	-.099	.039	.097	-.209

## Pairwise Comparisons

Measure: EffectiveWidth

				95% Confidence Interval for $\mu_b$
Amp	Width	(I) Cursor	(J) Cursor	Upper Bound
1	1	1	2	.010
			3	.048
			4	.035
		2	1	.200
			3	.128
			4	.111
		3	1	.148
			2	.037
			4	.064
		4	1	.180
			2	.066
			3	.110
	2	1	2	-.026
			3	.013
			4	-.074
		2	1	.298
			3	.150
			4	.089
		3	1	.295
			2	.108
			4	.030
		4	1	.329
			2	.169
			3	.151
	3	1	2	.055
			3	.004
			4	-.019
		2	1	.117
			3	.019
			4	.050
		3	1	.213
			2	.166
			4	.133
		4	1	.156
			2	.164
			3	.099
2	1	1	2	.084
			3	.007
			4	.011

## Pairwise Comparisons

Measure: EffectiveWidth

Amp	Width	(I) Cursor	(J) Cursor	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for ...
							Lower Bound
		2	1	.055	.049	1.000	-.084
			3	-.053	.035	.887	-.154
			4	-.044	.038	1.000	-.152
		3	1	.107	.040	.075	-.007
			2	.053	.035	.887	-.048
			4	.008	.034	1.000	-.088
		4	1	.099	.039	.097	-.011
			2	.044	.038	1.000	-.064
			3	-.008	.034	1.000	-.104
	2	1	2	.016	.046	1.000	-.114
			3	-.130	.055	.160	-.288
			4	-.083	.041	.310	-.199
		2	1	-.016	.046	1.000	-.146
			3	-.146 <sup>*</sup>	.048	.033	-.283
			4	-.099	.044	.208	-.225
		3	1	.130	.055	.160	-.028
			2	.146 <sup>*</sup>	.048	.033	.008
			4	.047	.043	1.000	-.076
		4	1	.083	.041	.310	-.033
			2	.099	.044	.208	-.028
			3	-.047	.043	1.000	-.170
	3	1	2	-.043	.042	1.000	-.163
			3	-.203 <sup>*</sup>	.047	.001	-.337
			4	-.183 <sup>*</sup>	.044	.002	-.308
		2	1	.043	.042	1.000	-.077
			3	-.160 <sup>*</sup>	.041	.003	-.276
			4	-.140 <sup>*</sup>	.046	.034	-.272
		3	1	.203 <sup>*</sup>	.047	.001	.070
			2	.160 <sup>*</sup>	.041	.003	.044
			4	.021	.050	1.000	-.121
		4	1	.183 <sup>*</sup>	.044	.002	.057
			2	.140 <sup>*</sup>	.046	.034	.007
			3	-.021	.050	1.000	-.162
3	1	1	2	-.029	.033	1.000	-.124
			3	-.033	.021	.694	-.092
			4	-.055	.032	.567	-.145
		2	1	.029	.033	1.000	-.066
			3	-.004	.028	1.000	-.084
			4	-.026	.029	1.000	-.109

## Pairwise Comparisons

Measure: EffectiveWidth

				95% Confidence Interval for $\mu_b$
Amp	Width	(I) Cursor	(J) Cursor	Upper Bound
		2	1	.193
			3	.048
			4	.064
		3	1	.222
			2	.154
			4	.104
		4	1	.209
			2	.152
			3	.088
	2	1	2	.146
			3	.028
			4	.033
		2	1	.114
			3	-.008
			4	.028
		3	1	.288
			2	.283
			4	.170
		4	1	.199
			2	.225
			3	.076
	3	1	2	.077
			3	-.070
			4	-.057
		2	1	.163
			3	-.044
			4	-.007
		3	1	.337
			2	.276
			4	.162
		4	1	.308
			2	.272
			3	.121
3	1	1	2	.066
			3	.025
			4	.035
		2	1	.124
			3	.076
			4	.057

## Pairwise Comparisons

Measure: EffectiveWidth

Amp	Width	(I) Cursor	(J) Cursor	Mean Difference	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for ...
				(I-J)			Lower Bound
	2	3	1	.033	.021	.694	-.025
			2	.004	.028	1.000	-.076
			4	-.022	.024	1.000	-.089
		4	1	.055	.032	.567	-.035
			2	.026	.029	1.000	-.057
			3	.022	.024	1.000	-.046
		1	2	-.065	.038	.581	-.173
			3	-.154 <sup>*</sup>	.040	.004	-.266
			4	-.107 <sup>*</sup>	.034	.023	-.204
		2	1	.065	.038	.581	-.043
			3	-.088 <sup>*</sup>	.029	.028	-.170
			4	-.042	.035	1.000	-.143
	3	3	1	.154 <sup>*</sup>	.040	.004	.041
			2	.088 <sup>*</sup>	.029	.028	.007
			4	.046	.028	.692	-.035
		4	1	.107 <sup>*</sup>	.034	.023	.011
			2	.042	.035	1.000	-.059
			3	-.046	.028	.692	-.127
		1	2	-.064	.048	1.000	-.200
			3	-.178 <sup>*</sup>	.044	.002	-.304
			4	-.179 <sup>*</sup>	.038	<.001	-.288
		2	1	.064	.048	1.000	-.072
			3	-.115	.043	.080	-.238
			4	-.115	.051	.189	-.260
	4	3	1	.178 <sup>*</sup>	.044	.002	.053
			2	.115	.043	.080	-.009
			4	-.001	.040	1.000	-.114
		4	1	.179 <sup>*</sup>	.038	<.001	.070
			2	.115	.051	.189	-.029
			3	.001	.040	1.000	-.112



## Pairwise Comparisons

Measure: EffectiveWidth

				95% Confidence Interval for <sup>b</sup> ...
Amp	Width	(I) Cursor	(J) Cursor	Upper Bound
		3	1	.092
			2	.084
			4	.046
		4	1	.145
			2	.109
			3	.089
	2	1	2	.043
			3	-.041
			4	-.011
		2	1	.173
			3	-.007
			4	.059
		3	1	.266
			2	.170
			4	.127
		4	1	.204
			2	.143
			3	.035
	3	1	2	.072
			3	-.053
			4	-.070
		2	1	.200
			3	.009
			4	.029
		3	1	.304
			2	.238
			4	.112
		4	1	.288
			2	.260
			3	.114

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Bonferroni.

### Multivariate Tests

Amp	Width		Value	F	Hypothesis df	Error df	Sig.
1	1	Pillai's trace	.207	2.172 <sup>a</sup>	3.000	25.000	.116
		Wilks' lambda	.793	2.172 <sup>a</sup>	3.000	25.000	.116
		Hotelling's trace	.261	2.172 <sup>a</sup>	3.000	25.000	.116
		Roy's largest root	.261	2.172 <sup>a</sup>	3.000	25.000	.116
	2	Pillai's trace	.505	8.518 <sup>a</sup>	3.000	25.000	<.001
		Wilks' lambda	.495	8.518 <sup>a</sup>	3.000	25.000	<.001
		Hotelling's trace	1.022	8.518 <sup>a</sup>	3.000	25.000	<.001
		Roy's largest root	1.022	8.518 <sup>a</sup>	3.000	25.000	<.001
	3	Pillai's trace	.399	5.543 <sup>a</sup>	3.000	25.000	.005
		Wilks' lambda	.601	5.543 <sup>a</sup>	3.000	25.000	.005
		Hotelling's trace	.665	5.543 <sup>a</sup>	3.000	25.000	.005
		Roy's largest root	.665	5.543 <sup>a</sup>	3.000	25.000	.005
2	1	Pillai's trace	.285	3.327 <sup>a</sup>	3.000	25.000	.036
		Wilks' lambda	.715	3.327 <sup>a</sup>	3.000	25.000	.036
		Hotelling's trace	.399	3.327 <sup>a</sup>	3.000	25.000	.036
		Roy's largest root	.399	3.327 <sup>a</sup>	3.000	25.000	.036
	2	Pillai's trace	.283	3.288 <sup>a</sup>	3.000	25.000	.037
		Wilks' lambda	.717	3.288 <sup>a</sup>	3.000	25.000	.037
		Hotelling's trace	.395	3.288 <sup>a</sup>	3.000	25.000	.037
		Roy's largest root	.395	3.288 <sup>a</sup>	3.000	25.000	.037
	3	Pillai's trace	.544	9.957 <sup>a</sup>	3.000	25.000	<.001
		Wilks' lambda	.456	9.957 <sup>a</sup>	3.000	25.000	<.001
		Hotelling's trace	1.195	9.957 <sup>a</sup>	3.000	25.000	<.001
		Roy's largest root	1.195	9.957 <sup>a</sup>	3.000	25.000	<.001
3	1	Pillai's trace	.116	1.092 <sup>a</sup>	3.000	25.000	.371
		Wilks' lambda	.884	1.092 <sup>a</sup>	3.000	25.000	.371
		Hotelling's trace	.131	1.092 <sup>a</sup>	3.000	25.000	.371
		Roy's largest root	.131	1.092 <sup>a</sup>	3.000	25.000	.371
	2	Pillai's trace	.400	5.545 <sup>a</sup>	3.000	25.000	.005
		Wilks' lambda	.600	5.545 <sup>a</sup>	3.000	25.000	.005
		Hotelling's trace	.665	5.545 <sup>a</sup>	3.000	25.000	.005
		Roy's largest root	.665	5.545 <sup>a</sup>	3.000	25.000	.005
	3	Pillai's trace	.495	8.166 <sup>a</sup>	3.000	25.000	<.001
		Wilks' lambda	.505	8.166 <sup>a</sup>	3.000	25.000	<.001
		Hotelling's trace	.980	8.166 <sup>a</sup>	3.000	25.000	<.001
		Roy's largest root	.980	8.166 <sup>a</sup>	3.000	25.000	<.001

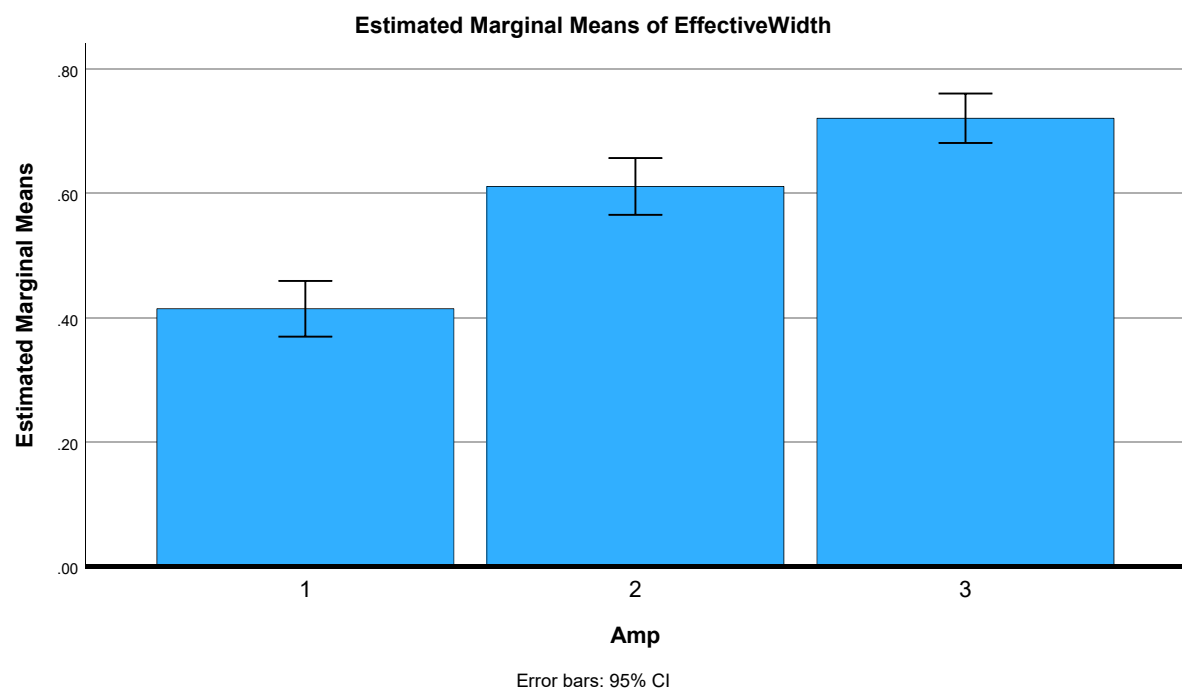
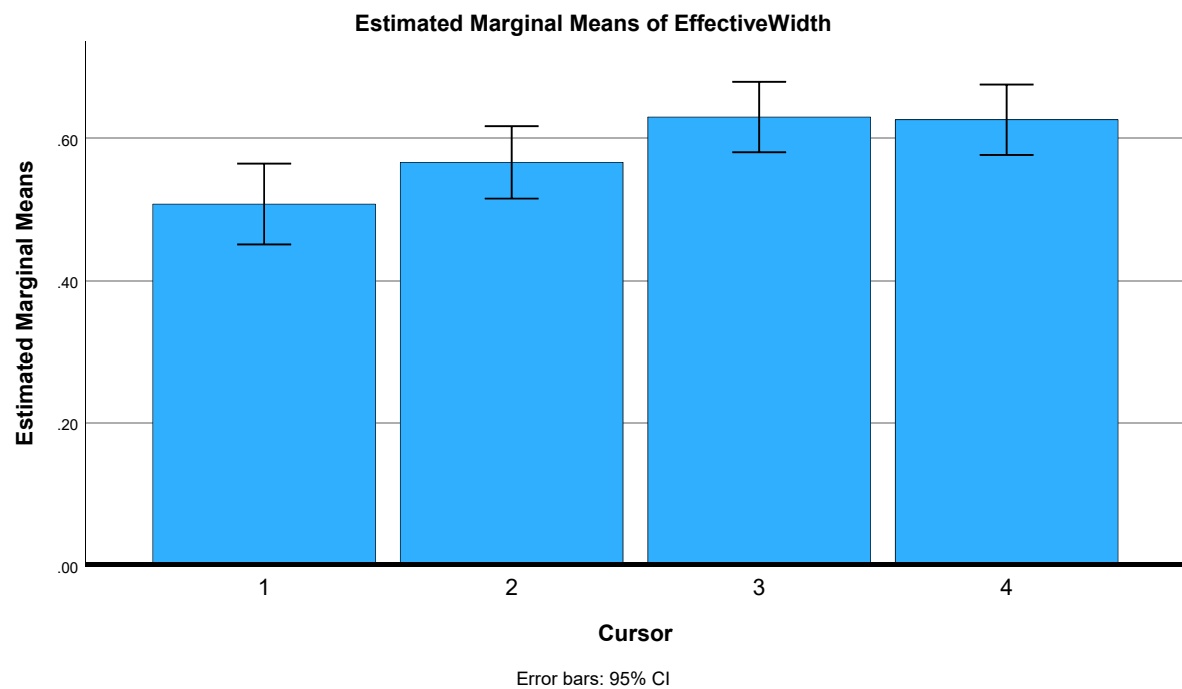
### Multivariate Tests

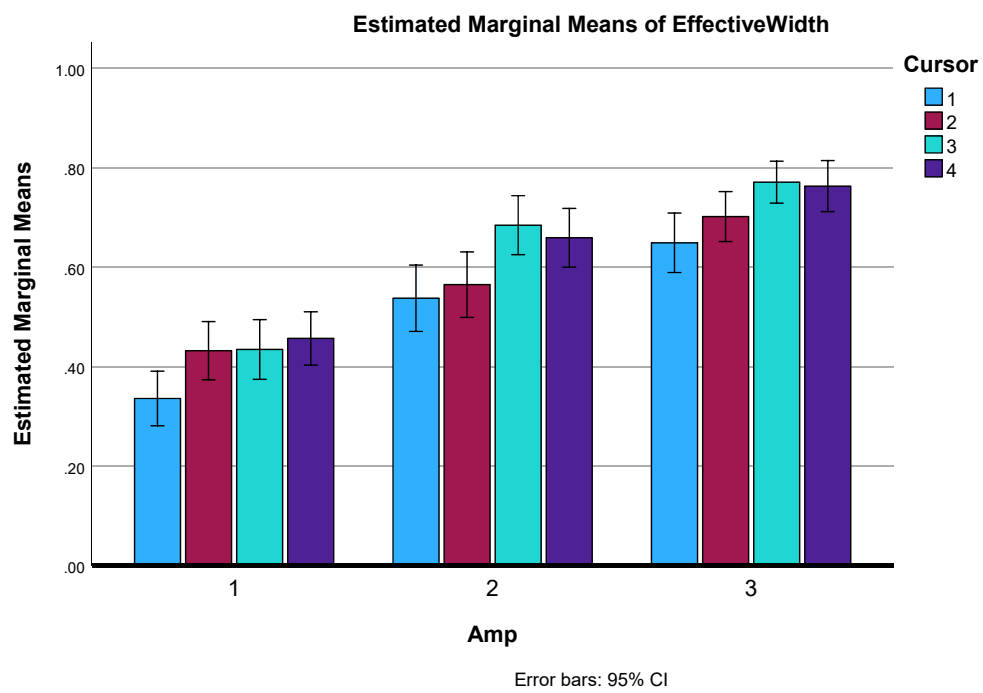
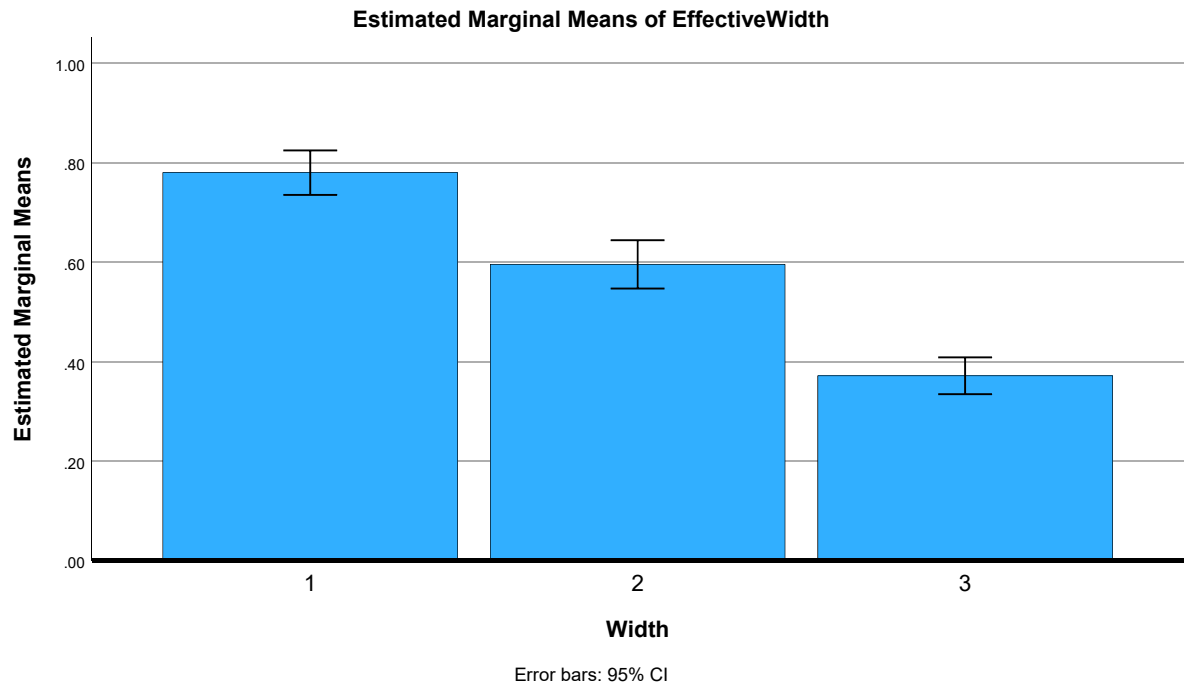
Amp	Width		Partial Eta Squared
1	1	Pillai's trace	.207
		Wilks' lambda	.207
		Hotelling's trace	.207
		Roy's largest root	.207
	2	Pillai's trace	.505
		Wilks' lambda	.505
		Hotelling's trace	.505
		Roy's largest root	.505
	3	Pillai's trace	.399
		Wilks' lambda	.399
		Hotelling's trace	.399
		Roy's largest root	.399
2	1	Pillai's trace	.285
		Wilks' lambda	.285
		Hotelling's trace	.285
		Roy's largest root	.285
	2	Pillai's trace	.283
		Wilks' lambda	.283
		Hotelling's trace	.283
		Roy's largest root	.283
	3	Pillai's trace	.544
		Wilks' lambda	.544
		Hotelling's trace	.544
		Roy's largest root	.544
3	1	Pillai's trace	.116
		Wilks' lambda	.116
		Hotelling's trace	.116
		Roy's largest root	.116
	2	Pillai's trace	.400
		Wilks' lambda	.400
		Hotelling's trace	.400
		Roy's largest root	.400
	3	Pillai's trace	.495
		Wilks' lambda	.495
		Hotelling's trace	.495
		Roy's largest root	.495

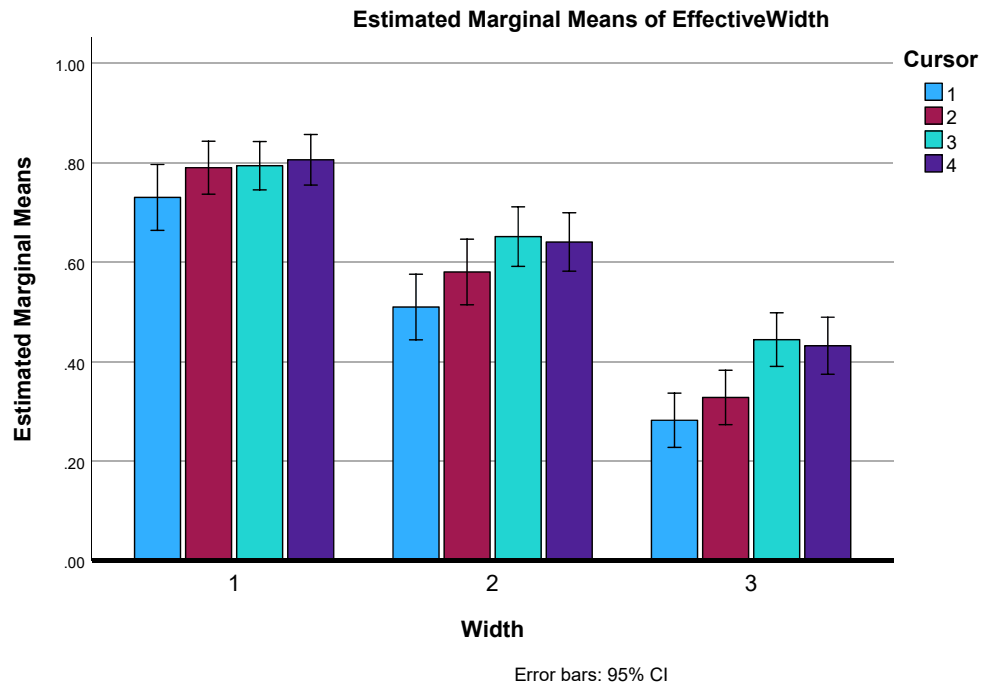
Each F tests the multivariate simple effects of Cursor within each level combination of the other effects shown. These tests are based on the linearly independent pairwise comparisons among the estimated marginal means.

a. Exact statistic

## Profile Plots







**Width \* Cursor \* Amp**

