

Dataset Activate
Mixed Model Analysis

		Model Dimension^a		
		Number of Levels	Covariance Structure	Number of Parameters
Fixed Effects	Intercept	1		1
	SNR	3		2
	Program	6		5
	SNR * Program	18		10
Random Effects	Audiogram	4	Variance Components	1
Residual				1
Total		32		20

a. Dependent Variable: HASPI.

Information Criteria^a

-2 Restricted Log Likelihood	-589.60306544
Akaike's Information Criterion (AIC)	-585.60306544
Hurvich and Tsai's Criterion (AICC)	-585.58144381
Bozdogan's Criterion (CAIC)	-574.95434751
Schwarz's Bayesian Criterion (BIC)	-576.95434751

The information criteria are displayed in smaller-is-better form.^a

a. Dependent Variable: HASPI.

Coefficients of Determination

Pseudo-R Square Measures	Marginal	.637
	Conditional	.717

Intraclass Correlation Coefficients

Overall ICCs	Adjusted	.219
	Conditional	.079

Fixed Effects

Type III Tests of Fixed Effects^a

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	3.002	52.456	.005
SNR	2	555.000	558.728	<.001
Program	5	555	30.545	<.001
SNR * Program	10	555.000	2.219	.016

a. Dependent Variable: HASPI.

Covariance Parameters

Estimates of Covariance Parameters^a

Parameter	Estimate	Std. Error
Residual	.018	.001
Audiogram Variance	.005	.004

a. Dependent Variable: HASPI.

Estimated Marginal Means

1. Grand Mean^a

Mean	Std. Error	df	95% Confidence Interval	
			Lower Bound	Upper Bound
.259	.036	3.002	.145	.373

a. Dependent Variable: HASPI.

2. SNR

Estimates^a

SNR	Mean	Std. Error	df	95% Confidence Interval	
				Lower Bound	Upper Bound
-5	.051	.037	3.300	-.060	.162
0	.223	.037	3.300	.113	.334
5	.503	.037	3.300	.392	.614

a. Dependent Variable: HASPI.

Pairwise Comparisons^a

(I) SNR	(J) SNR	Mean Difference (I-J)	Std. Error	df	Sig. ^c	95% Confidence Interval for Difference ^c
						Lower Bound
-5	0	-.172*	.014	555	<.001	-.205
	5	-.451*	.014	555.000	<.001	-.484
0	-5	.172*	.014	555	<.001	.139
	5	-.279*	.014	555.000	<.001	-.312
5	-5	.451*	.014	555.000	<.001	.419
	0	.279*	.014	555.000	<.001	.247

Pairwise Comparisons^a

95% Confidence
Interval for
Difference

(I) SNR	(J) SNR	Upper Bound
-5	0	-.139
	5	-.419
0	-5	.205
	5	-.247
5	-5	.484
	0	.312

Based on estimated marginal means^a

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

a. Dependent Variable: HASPI.

c. Adjustment for multiple comparisons:
Bonferroni.

Univariate Tests^a

Numerator df	Denominator df	F	Sig.
2	555.000	558.728	<.001

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

a. Dependent Variable: HASPI.

3. Program

Estimates^a

Program	Mean	Std. Error	df	95% Confidence Interval	
				Lower Bound	Upper Bound
No_Processing	.206	.038	3.772	.098	.314
Beam	.206	.038	3.772	.099	.314
Beam+NoiseBlock	.218	.038	3.772	.110	.326
DNN	.331	.038	3.772	.223	.438
NoiseBlock	.216	.038	3.772	.108	.324
DNN+Directional	.378	.038	3.772	.270	.486

a. Dependent Variable: HASPI.

Pairwise Comparisons^a

(I) Program	(J) Program	Mean Difference (I-J)	Std. Error	df	Sig. ^c
No_Processing	Beam	.000	.019	555	1.000
	Beam+NoiseBlock	-.012	.019	555	1.000
	DNN	-.125*	.019	555	<.001
	NoiseBlock	-.010	.019	555	1.000
	DNN+Directional	-.172*	.019	555.000	<.001
Beam	No_Processing	.000	.019	555	1.000
	Beam+NoiseBlock	-.011	.019	555	1.000
	DNN	-.124*	.019	555	<.001
	NoiseBlock	-.010	.019	555	1.000
	DNN+Directional	-.172*	.019	555.000	<.001
Beam+NoiseBlock	No_Processing	.012	.019	555	1.000
	Beam	.011	.019	555	1.000
	DNN	-.113*	.019	555	<.001
	NoiseBlock	.002	.019	555	1.000
	DNN+Directional	-.160*	.019	555.000	<.001
DNN	No_Processing	.125*	.019	555	<.001
	Beam	.124*	.019	555	<.001
	Beam+NoiseBlock	.113*	.019	555	<.001
	NoiseBlock	.115*	.019	555	<.001
	DNN+Directional	-.047	.019	555.000	.216
NoiseBlock	No_Processing	.010	.019	555	1.000
	Beam	.010	.019	555	1.000
	Beam+NoiseBlock	-.002	.019	555	1.000
	DNN	-.115*	.019	555	<.001
	DNN+Directional	-.162*	.019	555.000	<.001
DNN+Directional	No_Processing	.172*	.019	555.000	<.001
	Beam	.172*	.019	555.000	<.001
	Beam+NoiseBlock	.160*	.019	555.000	<.001
	DNN	.047	.019	555.000	.216
	NoiseBlock	.162*	.019	555.000	<.001

Pairwise Comparisons^a

95% Confidence Interval for
Difference^c

(I) Program	(J) Program	Lower Bound	Upper Bound
No_Processing	Beam	-.057	.057
	Beam+NoiseBlock	-.069	.045
	DNN	-.181	-.068
	NoiseBlock	-.067	.047
	DNN+Directional	-.229	-.115
Beam	No_Processing	-.057	.057
	Beam+NoiseBlock	-.068	.045

	DNN	-.181	-.067
	NoiseBlock	-.067	.047
Beam+NoiseBlock	DNN+Directional	-.228	-.115
	No_Processing	-.045	.069
	Beam	-.045	.068
	DNN	-.170	-.056
	NoiseBlock	-.055	.059
	DNN+Directional	-.217	-.103
DNN	No_Processing	.068	.181
	Beam	.067	.181
	Beam+NoiseBlock	.056	.170
	NoiseBlock	.058	.171
	DNN+Directional	-.104	.009
NoiseBlock	No_Processing	-.047	.067
	Beam	-.047	.067
	Beam+NoiseBlock	-.059	.055
	DNN	-.171	-.058
	DNN+Directional	-.219	-.105
DNN+Directional	No_Processing	.115	.229
	Beam	.115	.228
	Beam+NoiseBlock	.103	.217
	DNN	-.009	.104
	NoiseBlock	.105	.219

Based on estimated marginal means^a

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

a. Dependent Variable: HASPI.

c. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests^a

Numerator df	Denominator df	F	Sig.
5	555	30.545	<.001

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

a. Dependent Variable: HASPI.

4. SNR * Program

SNR	Program	Estimates ^a					95% Confidence Interval	
		Mean	Std. Error	df				
					Lower Bound		Upper Bound	
-5	No_Processing	.024	.043	5.973	-.081		.128	
	Beam	.024	.043	5.973	-.080		.129	
	Beam+NoiseBlock	.027	.043	5.973	-.077		.131	
	DNN	.093	.043	5.973	-.011		.197	
	NoiseBlock	.030	.043	5.973	-.074		.134	
	DNN+Directional	.110	.043	5.973	.006		.214	
0	No_Processing	.146	.043	5.973	.042		.250	
	Beam	.147	.043	5.973	.043		.251	
	Beam+NoiseBlock	.160	.043	5.973	.056		.264	
	DNN	.314	.043	5.973	.210		.418	
	NoiseBlock	.174	.043	5.973	.070		.278	
	DNN+Directional	.400	.043	5.973	.296		.504	
5	No_Processing	.449	.043	5.973	.345		.553	
	Beam	.448	.043	5.973	.344		.552	
	Beam+NoiseBlock	.467	.043	5.973	.363		.571	
	DNN	.585	.043	5.973	.481		.689	
	NoiseBlock	.445	.043	5.973	.340		.549	
	DNN+Directional	.624	.043	5.973	.520		.728	

a. Dependent Variable: HASPI.

Pairwise Comparisons ^a								
SNR	(I) Program	(J) Program	Mean Difference (I- J)	Std. Error	df	Sig. ^c	95% Confidence Interval for Difference ^c	
							Lower Bound	Upper Bound
-5	No_Processing	Beam	-.001	.033	555	1.000	-.099	.097
		Beam+ NoiseBlock	-.004	.033	555	1.000	-.102	.095
		DNN	-.069	.033	555	.579	-.168	.029
		NoiseBlock	-.006	.033	555	1.000	-.105	.092
		DNN+ Directional	-.086	.033	555	.148	-.185	.012
	Beam	No_Processing	.001	.033	555	1.000	-.097	.099
		Beam+ NoiseBlock	-.003	.033	555	1.000	-.101	.096
		DNN	-.068	.033	555	.619	-.167	.030
		NoiseBlock	-.005	.033	555	1.000	-.104	.093
		DNN+ Directional	-.085	.033	555	.161	-.184	.013
	Beam+ NoiseBlock	No_Processing	.004	.033	555	1.000	-.095	.102
		Beam	.003	.033	555	1.000	-.096	.101
		DNN	-.066	.033	555	.745	-.164	.033

0	DNN	NoiseBlock	-0.003	.033	555	1.000	-.101	.096
		DNN+ Directional	-.083	.033	555	.200	-.181	.016
		No_Processing	.069	.033	555	.579	-.029	.168
		Beam	.068	.033	555	.619	-.030	.167
		Beam+ NoiseBlock	.066	.033	555	.745	-.033	.164
		NoiseBlock	.063	.033	555	.905	-.036	.161
		DNN+ Directional	-.017	.033	555	1.000	-.116	.081
	NoiseBlock	No_Processing	.006	.033	555	1.000	-.092	.105
		Beam	.005	.033	555	1.000	-.093	.104
		Beam+ NoiseBlock	.003	.033	555	1.000	-.096	.101
		DNN	-.063	.033	555	.905	-.161	.036
		DNN+ Directional	-.080	.033	555	.253	-.178	.018
	DNN+ Directional	No_Processing	.086	.033	555	.148	-.012	.185
		Beam	.085	.033	555	.161	-.013	.184
		Beam+ NoiseBlock	.083	.033	555	.200	-.016	.181
		DNN	.017	.033	555	1.000	-.081	.116
		NoiseBlock	.080	.033	555	.253	-.018	.178
	No_Processing	Beam	-.001	.033	555	1.000	-.099	.098
		Beam+ NoiseBlock	-.014	.033	555	1.000	-.112	.085
		DNN	-.168*	.033	555	<.001	-.267	-.070
		NoiseBlock	-.028	.033	555	1.000	-.126	.071
		DNN+ Directional	-.254*	.033	555	<.001	-.352	-.155
	Beam	No_Processing	.001	.033	555	1.000	-.098	.099
		Beam+ NoiseBlock	-.013	.033	555	1.000	-.111	.085
		DNN	-.167*	.033	555	<.001	-.266	-.069
		NoiseBlock	-.027	.033	555	1.000	-.125	.072
		DNN+ Directional	-.253*	.033	555	<.001	-.352	-.155
	Beam+ NoiseBlock	No_Processing	.014	.033	555	1.000	-.085	.112
		Beam	.013	.033	555	1.000	-.085	.111
		DNN	-.154*	.033	555	<.001	-.253	-.056
		NoiseBlock	-.014	.033	555	1.000	-.112	.085
		DNN+ Directional	-.240*	.033	555	<.001	-.339	-.142
	DNN	No_Processing	.168*	.033	555	<.001	.070	.267
		Beam	.167*	.033	555	<.001	.069	.266
		Beam+ NoiseBlock	.154*	.033	555	<.001	.056	.253

5	NoiseBlock	NoiseBlock	.140*	.033	555	<.001	.042	.239
		DNN+ Directional	-.086	.033	555	.157	-.184	.013
		No_Processing	.028	.033	555	1.000	-.071	.126
		Beam	.027	.033	555	1.000	-.072	.125
		Beam+ NoiseBlock	.014	.033	555	1.000	-.085	.112
		DNN	-.140*	.033	555	<.001	-.239	-.042
		DNN+ Directional	-.226*	.033	555	<.001	-.325	-.128
	DNN+ Directional	No_Processing	.254*	.033	555	<.001	.155	.352
		Beam	.253*	.033	555	<.001	.155	.352
		Beam+ NoiseBlock	.240*	.033	555	<.001	.142	.339
		DNN	.086	.033	555	.157	-.013	.184
		NoiseBlock	.226*	.033	555	<.001	.128	.325
	No_Processing	Beam	.001	.033	555	1.000	-.098	.099
		Beam+ NoiseBlock	-.018	.033	555	1.000	-.116	.080
		DNN	-.136*	.033	555	<.001	-.235	-.038
		NoiseBlock	.004	.033	555	1.000	-.094	.102
		DNN+ Directional	-.175*	.033	555.000	<.001	-.274	-.077
	Beam	No_Processing	-.001	.033	555	1.000	-.099	.098
		Beam+ NoiseBlock	-.019	.033	555	1.000	-.117	.080
		DNN	-.137*	.033	555	<.001	-.236	-.039
		NoiseBlock	.003	.033	555	1.000	-.095	.102
		DNN+ Directional	-.176*	.033	555.000	<.001	-.275	-.078
	Beam+ NoiseBlock	No_Processing	.018	.033	555	1.000	-.080	.116
		Beam	.019	.033	555	1.000	-.080	.117
		DNN	-.118*	.033	555	.006	-.217	-.020
		NoiseBlock	.022	.033	555	1.000	-.076	.120
		DNN+ Directional	-.157*	.033	555.000	<.001	-.256	-.059
	DNN	No_Processing	.136*	.033	555	<.001	.038	.235
		Beam	.137*	.033	555	<.001	.039	.236
		Beam+ NoiseBlock	.118*	.033	555	.006	.020	.217
		NoiseBlock	.140*	.033	555	<.001	.042	.239
		DNN+ Directional	-.039	.033	555.000	1.000	-.137	.059
	NoiseBlock	No_Processing	-.004	.033	555	1.000	-.102	.094
		Beam	-.003	.033	555	1.000	-.102	.095
		Beam+ NoiseBlock	-.022	.033	555	1.000	-.120	.076

DNN+ Directional	DNN	-.140*	.033	555	<.001	-.239	-.042
	DNN+ Directional	-.179*	.033	555.000	<.001	-.278	-.081
	No_Processing	.175*	.033	555.000	<.001	.077	.274
	Beam	.176*	.033	555.000	<.001	.078	.275
	Beam+ NoiseBlock	.157*	.033	555.000	<.001	.059	.256
	DNN	.039	.033	555.000	1.000	-.059	.137
	NoiseBlock	.179*	.033	555.000	<.001	.081	.278

Based on estimated marginal means^a

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

a. Dependent Variable: HASPI.

c. Adjustment for multiple comparisons: Bonferroni.

Univariate Tests ^a				
SNR	Numerator df	Denominator df	F	Sig.
-5	5	555	2.761	.018
0	5	555	20.719	<.001
5	5	555.000	11.503	<.001

Each F tests the simple effects of Program 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

a. Dependent Variable: HASPI.