

## General Linear Model

[DataSet1] C:\Users\james e campbell\OneDrive - Federal Aviation Administration\Documents  
\SPSS OFOS data 250825.sav

### Within-Subjects Factors

Measure: MEASURE\_1

Dependent  
Variable

Altitude

1	alt10k
2	alt45k.3.24LPM
3	alt40k.3.10LPM
4	alt35k.2.55LPM
5	alt30k.2.00LPM
6	alt25k.1.50LPM
7	alt20k.1.17LPM
8	alt18.5k.0.83 LPM
9	alt15k.0.50LPM
10	alt12k.0.25LPM

### Between-Subjects Factors

N

Gender	1	6
	2	6
Age	1	4
	2	4
	3	4

### Descriptive Statistics

	Gender	Age	Mean	Std. Deviation	N
SpO2	1	1	91.000	1.4142	2
		2	90.500	.7071	2
		3	89.000	2.8284	2
		Total	90.167	1.7224	6
	2	1	90.000	1.4142	2
		2	90.000	4.2426	2
		3	91.000	1.4142	2
		Total	90.333	2.1602	6
	Total	1	90.500	1.2910	4
		2	90.250	2.5000	4
		3	90.000	2.1602	4
		Total	90.250	1.8647	12
SpO2	1	1	78.000	2.8284	2
		2	83.500	.7071	2
		3	79.000	.0000	2
		Total	80.167	2.9269	6
	2	1	82.500	2.1213	2
		2	82.000	2.8284	2
		3	84.500	.7071	2
		Total	83.000	2.0000	6
	Total	1	80.250	3.3040	4
		2	82.750	1.8930	4
		3	81.750	3.2016	4
		Total	81.583	2.8110	12
SpO2	1	1	91.000	.0000	2
		2	93.500	2.1213	2
		3	93.500	3.5355	2
		Total	92.667	2.2509	6
	2	1	96.500	2.1213	2
		2	96.000	1.4142	2
		3	95.500	3.5355	2
		Total	96.000	2.0000	6
	Total	1	93.750	3.4034	4
		2	94.750	2.0616	4
		3	94.500	3.1091	4
		Total	94.333	2.6742	12
SpO2	1	1	96.000	.0000	2
		2	96.500	2.1213	2

### Descriptive Statistics

	Gender	Age	Mean	Std. Deviation	N
		3	97.000	2.8284	2
		Total	96.500	1.6432	6
	2	1	99.000	1.4142	2
		2	98.500	.7071	2
		3	98.000	2.8284	2
		Total	98.500	1.5166	6
	Total	1	97.500	1.9149	4
		2	97.500	1.7321	4
		3	97.500	2.3805	4
		Total	97.500	1.8340	12
SpO2	1	1	97.000	.0000	2
		2	98.500	.7071	2
		3	98.000	1.4142	2
		Total	97.833	.9832	6
	2	1	99.000	.0000	2
		2	99.500	.7071	2
		3	98.500	2.1213	2
		Total	99.000	1.0954	6
	Total	1	98.000	1.1547	4
		2	99.000	.8165	4
		3	98.250	1.5000	4
		Total	98.417	1.1645	12
SpO2	1	1	97.500	.7071	2
		2	98.500	.7071	2
		3	97.500	2.1213	2
		Total	97.833	1.1690	6
	2	1	98.500	.7071	2
		2	99.000	.0000	2
		3	99.000	1.4142	2
		Total	98.833	.7528	6
	Total	1	98.000	.8165	4
		2	98.750	.5000	4
		3	98.250	1.7078	4
		Total	98.333	1.0731	12
SpO2	1	1	96.500	3.5355	2
		2	98.000	.0000	2
		3	96.500	3.5355	2
		Total	97.000	2.3664	6

### Descriptive Statistics

	Gender	Age	Mean	Std. Deviation	N
	2	1	98.500	.7071	2
		2	99.000	.0000	2
		3	99.000	1.4142	2
		Total	98.833	.7528	6
	Total	1	97.500	2.3805	4
		2	98.500	.5774	4
		3	97.750	2.6300	4
		Total	97.917	1.9287	12
SpO2	1	1	96.000	4.2426	2
		2	97.000	1.4142	2
		3	96.500	2.1213	2
		Total	96.500	2.2583	6
	2	1	98.000	.0000	2
		2	99.000	.0000	2
		3	98.000	2.8284	2
		Total	98.333	1.3663	6
	Total	1	97.000	2.7080	4
		2	98.000	1.4142	4
		3	97.250	2.2174	4
		Total	97.417	2.0207	12
SpO2	1	1	95.000	4.2426	2
		2	94.500	.7071	2
		3	95.000	1.4142	2
		Total	94.833	2.0412	6
	2	1	96.500	2.1213	2
		2	98.000	.0000	2
		3	96.000	2.8284	2
		Total	96.833	1.8348	6
	Total	1	95.750	2.8723	4
		2	96.250	2.0616	4
		3	95.500	1.9149	4
		Total	95.833	2.1249	12
SpO2	1	1	89.500	2.1213	2
		2	92.500	.7071	2
		3	94.000	1.4142	2
		Total	92.000	2.3664	6
	2	1	93.500	2.1213	2
		2	95.500	2.1213	2

### Descriptive Statistics

Gender	Age	Mean	Std. Deviation	N
Total	3	93.000	1.4142	2
	Total	94.000	1.8974	6
	1	91.500	2.8868	4
	2	94.000	2.1602	4
	3	93.500	1.2910	4
	Total	93.000	2.2962	12

### Multivariate Tests<sup>a</sup>

Effect		Value	F	Hypothesis df	Error df
Altitude	Pillai's Trace	. <sup>b</sup>	.	.	.
	Wilks' Lambda	. <sup>b</sup>	.	.	.
	Hotelling's Trace	. <sup>b</sup>	.	.	.
	Roy's Largest Root	. <sup>b</sup>	.	.	.
Altitude * Gender	Pillai's Trace	. <sup>b</sup>	.	.	.
	Wilks' Lambda	. <sup>b</sup>	.	.	.
	Hotelling's Trace	. <sup>b</sup>	.	.	.
	Roy's Largest Root	. <sup>b</sup>	.	.	.
Altitude * Age	Pillai's Trace	. <sup>b</sup>	.	.	.
	Wilks' Lambda	. <sup>b</sup>	.	.	.
	Hotelling's Trace	. <sup>b</sup>	.	.	.
	Roy's Largest Root	. <sup>b</sup>	.	.	.
Altitude * Gender * Age	Pillai's Trace	. <sup>b</sup>	.	.	.
	Wilks' Lambda	. <sup>b</sup>	.	.	.
	Hotelling's Trace	. <sup>b</sup>	.	.	.
	Roy's Largest Root	. <sup>b</sup>	.	.	.

### Multivariate Tests<sup>a</sup>

Effect		Sig.	Partial Eta Squared	Noncent. Parameter
Altitude	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Altitude * Gender	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Altitude * Age	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.
Altitude * Gender * Age	Pillai's Trace	.	.	.
	Wilks' Lambda	.	.	.
	Hotelling's Trace	.	.	.
	Roy's Largest Root	.	.	.

### Multivariate Tests<sup>a</sup>

Effect		Observed Power <sup>c</sup>
Altitude	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.
Altitude * Gender	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.
Altitude * Age	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.
Altitude * Gender * Age	Pillai's Trace	.
	Wilks' Lambda	.
	Hotelling's Trace	.
	Roy's Largest Root	.

- a. Design: Intercept + Gender + Age + Gender \* Age  
Within Subjects Design: Altitude
- b. Cannot produce multivariate test statistics because of insufficient residual degrees of freedom.
- c. Computed using alpha = .05

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

Measure: MEASURE\_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon <sup>b</sup> Greenhouse-Geisser
Altitude	.000	.	44	.	.319

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

Measure: MEASURE\_1

Within Subjects Effect	Epsilon <sup>b</sup>	
	Huynh-Feldt	Lower-bound
Altitude	1.000	.111

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

- a. Design: Intercept + Gender + Age + Gender \* Age  
Within Subjects Design: Altitude
- b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

### Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Type III Sum of Squares	df	Mean Square	F
Altitude	Sphericity Assumed	2977.875	9	330.875	117.432
	Greenhouse-Geisser	2977.875	2.873	1036.655	117.432
	Huynh-Feldt	2977.875	9.000	330.875	117.432
	Lower-bound	2977.875	1.000	2977.875	117.432
Altitude * Gender	Sphericity Assumed	21.742	9	2.416	.857
	Greenhouse-Geisser	21.742	2.873	7.569	.857
	Huynh-Feldt	21.742	9.000	2.416	.857
	Lower-bound	21.742	1.000	21.742	.857
Altitude * Age	Sphericity Assumed	18.100	18	1.006	.357
	Greenhouse-Geisser	18.100	5.745	3.150	.357
	Huynh-Feldt	18.100	18.000	1.006	.357
	Lower-bound	18.100	2.000	9.050	.357
Altitude * Gender * Age	Sphericity Assumed	57.033	18	3.169	1.125
	Greenhouse-Geisser	57.033	5.745	9.927	1.125
	Huynh-Feldt	57.033	18.000	3.169	1.125
	Lower-bound	57.033	2.000	28.517	1.125
Error(Altitude)	Sphericity Assumed	152.150	54	2.818	
	Greenhouse-Geisser	152.150	17.235	8.828	
	Huynh-Feldt	152.150	54.000	2.818	
	Lower-bound	152.150	6.000	25.358	

### Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Sig.	Partial Eta Squared	Noncent. Parameter
Altitude	Sphericity Assumed	<.001	.951	1056.886
	Greenhouse-Geisser	<.001	.951	337.332
	Huynh-Feldt	<.001	.951	1056.886
	Lower-bound	<.001	.951	117.432
Altitude * Gender	Sphericity Assumed	.568	.125	7.716
	Greenhouse-Geisser	.478	.125	2.463
	Huynh-Feldt	.568	.125	7.716
	Lower-bound	.390	.125	.857
Altitude * Age	Sphericity Assumed	.991	.106	6.424
	Greenhouse-Geisser	.890	.106	2.050
	Huynh-Feldt	.991	.106	6.424
	Lower-bound	.714	.106	.714
Altitude * Gender * Age	Sphericity Assumed	.356	.273	20.242
	Greenhouse-Geisser	.388	.273	6.461
	Huynh-Feldt	.356	.273	20.242
	Lower-bound	.385	.273	2.249
Error(Altitude)	Sphericity Assumed			
	Greenhouse-Geisser			
	Huynh-Feldt			
	Lower-bound			

### Tests of Within-Subjects Effects

Measure: MEASURE\_1

Source		Observed Power <sup>a</sup>
Altitude	Sphericity Assumed	1.000
	Greenhouse-Geisser	1.000
	Huynh-Feldt	1.000
	Lower-bound	1.000
Altitude * Gender	Sphericity Assumed	.377
	Greenhouse-Geisser	.195
	Huynh-Feldt	.377
	Lower-bound	.123
Altitude * Age	Sphericity Assumed	.206
	Greenhouse-Geisser	.120
	Huynh-Feldt	.206
	Lower-bound	.085
Altitude * Gender * Age	Sphericity Assumed	.670
	Greenhouse-Geisser	.320
	Huynh-Feldt	.670
	Lower-bound	.168
Error(Altitude)	Sphericity Assumed	
	Greenhouse-Geisser	
	Huynh-Feldt	
	Lower-bound	

a. Computed using alpha = .05

### Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Altitude	Type III Sum of Squares	df	Mean Square	F
Altitude	Level 2 vs. Level 1	901.333	1	901.333	56.926
	Level 3 vs. Level 1	200.083	1	200.083	20.176
	Level 4 vs. Level 1	630.750	1	630.750	116.446
	Level 5 vs. Level 1	800.333	1	800.333	228.667
	Level 6 vs. Level 1	784.083	1	784.083	218.814
	Level 7 vs. Level 1	705.333	1	705.333	176.333
	Level 8 vs. Level 1	616.333	1	616.333	105.657
	Level 9 vs. Level 1	374.083	1	374.083	69.062
	Level 10 vs. Level 1	90.750	1	90.750	14.520
Altitude * Gender	Level 2 vs. Level 1	21.333	1	21.333	1.347
	Level 3 vs. Level 1	30.083	1	30.083	3.034
	Level 4 vs. Level 1	10.083	1	10.083	1.862
	Level 5 vs. Level 1	3.000	1	3.000	.857
	Level 6 vs. Level 1	2.083	1	2.083	.581
	Level 7 vs. Level 1	8.333	1	8.333	2.083
	Level 8 vs. Level 1	8.333	1	8.333	1.429
	Level 9 vs. Level 1	10.083	1	10.083	1.862
	Level 10 vs. Level 1	10.083	1	10.083	1.613
Altitude * Age	Level 2 vs. Level 1	16.167	2	8.083	.511
	Level 3 vs. Level 1	4.167	2	2.083	.210
	Level 4 vs. Level 1	.500	2	.250	.046
	Level 5 vs. Level 1	3.167	2	1.583	.452
	Level 6 vs. Level 1	2.167	2	1.083	.302
	Level 7 vs. Level 1	3.167	2	1.583	.396
	Level 8 vs. Level 1	3.167	2	1.583	.271
	Level 9 vs. Level 1	1.167	2	.583	.108
	Level 10 vs. Level 1	18.500	2	9.250	1.480
Altitude * Gender * Age	Level 2 vs. Level 1	22.167	2	11.083	.700
	Level 3 vs. Level 1	21.167	2	10.583	1.067
	Level 4 vs. Level 1	13.167	2	6.583	1.215
	Level 5 vs. Level 1	10.500	2	5.250	1.500
	Level 6 vs. Level 1	3.167	2	1.583	.442
	Level 7 vs. Level 1	3.167	2	1.583	.396
	Level 8 vs. Level 1	7.167	2	3.583	.614
	Level 9 vs. Level 1	13.167	2	6.583	1.215
	Level 10 vs. Level 1	36.167	2	18.083	2.893

### Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Altitude	Sig.	Partial Eta Squared	Noncent. Parameter
Altitude	Level 2 vs. Level 1	<.001	.905	56.926
	Level 3 vs. Level 1	.004	.771	20.176
	Level 4 vs. Level 1	<.001	.951	116.446
	Level 5 vs. Level 1	<.001	.974	228.667
	Level 6 vs. Level 1	<.001	.973	218.814
	Level 7 vs. Level 1	<.001	.967	176.333
	Level 8 vs. Level 1	<.001	.946	105.657
	Level 9 vs. Level 1	<.001	.920	69.062
	Level 10 vs. Level 1	.009	.708	14.520
Altitude * Gender	Level 2 vs. Level 1	.290	.183	1.347
	Level 3 vs. Level 1	.132	.336	3.034
	Level 4 vs. Level 1	.221	.237	1.862
	Level 5 vs. Level 1	.390	.125	.857
	Level 6 vs. Level 1	.475	.088	.581
	Level 7 vs. Level 1	.199	.258	2.083
	Level 8 vs. Level 1	.277	.192	1.429
	Level 9 vs. Level 1	.221	.237	1.862
	Level 10 vs. Level 1	.251	.212	1.613
Altitude * Age	Level 2 vs. Level 1	.624	.145	1.021
	Level 3 vs. Level 1	.816	.065	.420
	Level 4 vs. Level 1	.955	.015	.092
	Level 5 vs. Level 1	.656	.131	.905
	Level 6 vs. Level 1	.750	.092	.605
	Level 7 vs. Level 1	.689	.117	.792
	Level 8 vs. Level 1	.771	.083	.543
	Level 9 vs. Level 1	.900	.035	.215
	Level 10 vs. Level 1	.300	.330	2.960
Altitude * Gender * Age	Level 2 vs. Level 1	.533	.189	1.400
	Level 3 vs. Level 1	.401	.262	2.134
	Level 4 vs. Level 1	.360	.288	2.431
	Level 5 vs. Level 1	.296	.333	3.000
	Level 6 vs. Level 1	.662	.128	.884
	Level 7 vs. Level 1	.689	.117	.792
	Level 8 vs. Level 1	.572	.170	1.229
	Level 9 vs. Level 1	.360	.288	2.431
	Level 10 vs. Level 1	.132	.491	5.787

### Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Altitude	Observed Power <sup>a</sup>
Altitude	Level 2 vs. Level 1	1.000
	Level 3 vs. Level 1	.959
	Level 4 vs. Level 1	1.000
	Level 5 vs. Level 1	1.000
	Level 6 vs. Level 1	1.000
	Level 7 vs. Level 1	1.000
	Level 8 vs. Level 1	1.000
	Level 9 vs. Level 1	1.000
	Level 10 vs. Level 1	.885
Altitude * Gender	Level 2 vs. Level 1	.166
	Level 3 vs. Level 1	.312
	Level 4 vs. Level 1	.211
	Level 5 vs. Level 1	.123
	Level 6 vs. Level 1	.099
	Level 7 vs. Level 1	.230
	Level 8 vs. Level 1	.173
	Level 9 vs. Level 1	.211
	Level 10 vs. Level 1	.189
Altitude * Age	Level 2 vs. Level 1	.101
	Level 3 vs. Level 1	.070
	Level 4 vs. Level 1	.054
	Level 5 vs. Level 1	.095
	Level 6 vs. Level 1	.080
	Level 7 vs. Level 1	.089
	Level 8 vs. Level 1	.077
	Level 9 vs. Level 1	.060
	Level 10 vs. Level 1	.209
Altitude * Gender * Age	Level 2 vs. Level 1	.121
	Level 3 vs. Level 1	.162
	Level 4 vs. Level 1	.178
	Level 5 vs. Level 1	.211
	Level 6 vs. Level 1	.094
	Level 7 vs. Level 1	.089
	Level 8 vs. Level 1	.112
	Level 9 vs. Level 1	.178
	Level 10 vs. Level 1	.369

### Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Altitude	Type III Sum of Squares	df	Mean Square	F
Error(Altitude)	Level 2 vs. Level 1	95.000	6	15.833	
	Level 3 vs. Level 1	59.500	6	9.917	
	Level 4 vs. Level 1	32.500	6	5.417	
	Level 5 vs. Level 1	21.000	6	3.500	
	Level 6 vs. Level 1	21.500	6	3.583	
	Level 7 vs. Level 1	24.000	6	4.000	
	Level 8 vs. Level 1	35.000	6	5.833	
	Level 9 vs. Level 1	32.500	6	5.417	
	Level 10 vs. Level 1	37.500	6	6.250	

### Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Altitude	Sig.	Partial Eta Squared	Noncent. Parameter
Error(Altitude)	Level 2 vs. Level 1			
	Level 3 vs. Level 1			
	Level 4 vs. Level 1			
	Level 5 vs. Level 1			
	Level 6 vs. Level 1			
	Level 7 vs. Level 1			
	Level 8 vs. Level 1			
	Level 9 vs. Level 1			
	Level 10 vs. Level 1			

### Tests of Within-Subjects Contrasts

Measure: MEASURE\_1

Source	Altitude	Observed Power <sup>a</sup>
Error(Altitude)	Level 2 vs. Level 1	
	Level 3 vs. Level 1	
	Level 4 vs. Level 1	
	Level 5 vs. Level 1	
	Level 6 vs. Level 1	
	Level 7 vs. Level 1	
	Level 8 vs. Level 1	
	Level 9 vs. Level 1	
	Level 10 vs. Level 1	

a. Computed using alpha = .05

### 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	107068.521	1	107068.521	73544.491	<.001	1.000
Gender	9.901	1	9.901	6.801	.040	.531
Age	2.007	2	1.003	.689	.538	.187
Gender * Age	.647	2	.323	.222	.807	.069
Error	8.735	6	1.456			

### Tests of Between-Subjects Effects

Measure: MEASURE\_1

Transformed Variable: Average

Source	Noncent. Parameter	Observed Power <sup>a</sup>
Intercept	73544.491	1.000
Gender	6.801	.588
Age	1.378	.120
Gender * Age	.444	.072
Error		

a. Computed using alpha = .05

### Estimated Marginal Means

#### Altitude

#### Estimates

Measure: MEASURE\_1

Altitude	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	90.250	.672	88.606	91.894
2	81.583	.546	80.246	82.920
3	94.333	.707	92.603	96.064
4	97.500	.565	96.117	98.883
5	98.417	.323	97.627	99.206
6	98.333	.333	97.518	99.149
7	97.917	.618	96.404	99.429
8	97.417	.672	95.773	99.061
9	95.833	.677	94.177	97.490
10	93.000	.500	91.777	94.223

### Pairwise Comparisons

Measure: MEASURE\_1

(I) Altitude	(J) Altitude	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
1	2	8.667 <sup>*</sup>	1.149	<.001	5.856	11.477
	3	-4.083 <sup>*</sup>	.909	.004	-6.308	-1.859
	4	-7.250 <sup>*</sup>	.672	<.001	-8.894	-5.606
	5	-8.167 <sup>*</sup>	.540	<.001	-9.488	-6.845
	6	-8.083 <sup>*</sup>	.546	<.001	-9.420	-6.746
	7	-7.667 <sup>*</sup>	.577	<.001	-9.079	-6.254
	8	-7.167 <sup>*</sup>	.697	<.001	-8.873	-5.461
	9	-5.583 <sup>*</sup>	.672	<.001	-7.227	-3.939
	10	-2.750 <sup>*</sup>	.722	.009	-4.516	-.984
2	1	-8.667 <sup>*</sup>	1.149	<.001	-11.477	-5.856
	3	-12.750 <sup>*</sup>	.768	<.001	-14.630	-10.870
	4	-15.917 <sup>*</sup>	.777	<.001	-17.819	-14.015
	5	-16.833 <sup>*</sup>	.697	<.001	-18.539	-15.127
	6	-16.750 <sup>*</sup>	.722	<.001	-18.516	-14.984
	7	-16.333 <sup>*</sup>	1.014	<.001	-18.814	-13.853
	8	-15.833 <sup>*</sup>	1.054	<.001	-18.413	-13.254
	9	-14.250 <sup>*</sup>	1.121	<.001	-16.993	-11.507
	10	-11.417 <sup>*</sup>	.829	<.001	-13.446	-9.388
3	1	4.083 <sup>*</sup>	.909	.004	1.859	6.308
	2	12.750 <sup>*</sup>	.768	<.001	10.870	14.630
	4	-3.167 <sup>*</sup>	.289	<.001	-3.873	-2.460
	5	-4.083 <sup>*</sup>	.493	<.001	-5.290	-2.877
	6	-4.000 <sup>*</sup>	.514	<.001	-5.257	-2.743
	7	-3.583 <sup>*</sup>	.661	.002	-5.202	-1.965
	8	-3.083 <sup>*</sup>	.618	.002	-4.596	-1.571
	9	-1.500	.791	.107	-3.434	.434
	10	1.333	.957	.213	-1.009	3.676
4	1	7.250 <sup>*</sup>	.672	<.001	5.606	8.894
	2	15.917 <sup>*</sup>	.777	<.001	14.015	17.819
	3	3.167 <sup>*</sup>	.289	<.001	2.460	3.873
	5	-.917 <sup>*</sup>	.300	.022	-1.652	-.181
	6	-.833	.373	.067	-1.745	.079
	7	-.417	.583	.502	-1.844	1.011
	8	.083	.546	.884	-1.254	1.420

### Pairwise Comparisons

Measure: MEASURE\_1

(I) Altitude	(J) Altitude	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
5	9	1.667	.697	.054	-.039	3.373
	10	4.500 <sup>*</sup>	.755	<.001	2.654	6.346
	1	8.167 <sup>*</sup>	.540	<.001	6.845	9.488
	2	16.833 <sup>*</sup>	.697	<.001	15.127	18.539
	3	4.083 <sup>*</sup>	.493	<.001	2.877	5.290
	4	.917 <sup>*</sup>	.300	.022	.181	1.652
	6	.083	.186	.670	-.373	.539
	7	.500	.514	.368	-.757	1.757
	8	1.000	.527	.107	-.290	2.290
	9	2.583 <sup>*</sup>	.571	.004	1.185	3.981
6	10	5.417 <sup>*</sup>	.520	<.001	4.143	6.690
	1	8.083 <sup>*</sup>	.546	<.001	6.746	9.420
	2	16.750 <sup>*</sup>	.722	<.001	14.984	18.516
	3	4.000 <sup>*</sup>	.514	<.001	2.743	5.257
	4	.833	.373	.067	-.079	1.745
	5	-.083	.186	.670	-.539	.373
	7	.417	.382	.317	-.518	1.351
	8	.917	.464	.096	-.219	2.052
	9	2.500 <sup>*</sup>	.486	.002	1.311	3.689
	10	5.333 <sup>*</sup>	.612	<.001	3.835	6.832
7	1	7.667 <sup>*</sup>	.577	<.001	6.254	9.079
	2	16.333 <sup>*</sup>	1.014	<.001	13.853	18.814
	3	3.583 <sup>*</sup>	.661	.002	1.965	5.202
	4	.417	.583	.502	-1.011	1.844
	5	-.500	.514	.368	-1.757	.757
	6	-.417	.382	.317	-1.351	.518
	8	.500	.312	.160	-.263	1.263
	9	2.083 <sup>*</sup>	.363	.001	1.195	2.972
	10	4.917 <sup>*</sup>	.939	.002	2.619	7.215
8	1	7.167 <sup>*</sup>	.697	<.001	5.461	8.873
	2	15.833 <sup>*</sup>	1.054	<.001	13.254	18.413
	3	3.083 <sup>*</sup>	.618	.002	1.571	4.596
	4	-.083	.546	.884	-1.420	1.254
	5	-1.000	.527	.107	-2.290	.290

### Pairwise Comparisons

Measure: MEASURE\_1

(I) Altitude	(J) Altitude	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
9	6	-.917	.464	.096	-2.052	.219
	7	-.500	.312	.160	-1.263	.263
	9	1.583 <sup>*</sup>	.276	.001	.907	2.260
	10	4.417 <sup>*</sup>	.946	.003	2.101	6.733
	1	5.583 <sup>*</sup>	.672	<.001	3.939	7.227
	2	14.250 <sup>*</sup>	1.121	<.001	11.507	16.993
	3	1.500	.791	.107	-.434	3.434
	4	-1.667	.697	.054	-3.373	.039
	5	-2.583 <sup>*</sup>	.571	.004	-3.981	-1.185
	6	-2.500 <sup>*</sup>	.486	.002	-3.689	-1.311
10	7	-2.083 <sup>*</sup>	.363	.001	-2.972	-1.195
	8	-1.583 <sup>*</sup>	.276	.001	-2.260	-.907
	10	2.833 <sup>*</sup>	.874	.018	.695	4.972
	1	2.750 <sup>*</sup>	.722	.009	.984	4.516
	2	11.417 <sup>*</sup>	.829	<.001	9.388	13.446
	3	-1.333	.957	.213	-3.676	1.009
	4	-4.500 <sup>*</sup>	.755	<.001	-6.346	-2.654
	5	-5.417 <sup>*</sup>	.520	<.001	-6.690	-4.143
	6	-5.333 <sup>*</sup>	.612	<.001	-6.832	-3.835
	7	-4.917 <sup>*</sup>	.939	.002	-7.215	-2.619
	8	-4.417 <sup>*</sup>	.946	.003	-6.733	-2.101
	9	-2.833 <sup>*</sup>	.874	.018	-4.972	-.695

Based on estimated marginal means

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

b. Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).

### Multivariate Tests

	Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Pillai's trace	.999	176.365 <sup>a</sup>	6.000	1.000	.058	.999
Wilks' lambda	.001	176.365 <sup>a</sup>	6.000	1.000	.058	.999
Hotelling's trace	1058.192	176.365 <sup>a</sup>	6.000	1.000	.058	.999
Roy's largest root	1058.192	176.365 <sup>a</sup>	6.000	1.000	.058	.999

### Multivariate Tests

	Noncent. Parameter	Observed Power <sup>b</sup>
Pillai's trace	1058.192	.616
Wilks' lambda	1058.192	.616
Hotelling's trace	1058.192	.616
Roy's largest root	1058.192	.616

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

a. Exact statistic

b. Computed using alpha = .05