Scoring Likert Type Items

For purposes of the "Fake Diagnostic Assessment PSY605Q Scale" the simplest method can be used to score the various subtests. All of the items on the scale are in the same direction and will not need to be "reversed." For scales or subtests where some are positive and negative in terms of the overall scale some items would need to be reversed – for a procedure for scoring those subtest go here (http://psy605q.com/ScoringLikertTypeItems.pdf). The following syntax will "score" the 4 subtests of the "Fake Diagnostic Assessment PSY605Q Scale."

```
compute mAnx=mean(eworry, ejumpy, emindrace, econcentrate).
compute mBord=mean(econseq, emoodswing, efamily, eromance).
compute mDep=mean(edying, elostint, eworthless, efeelsad).
compute mSchiz=mean(enobodyNo, esocializ, egetme, eseethings).

compute moAnx=mean(oworry, ojumpy, omindrace, oconcentrate).
compute moBord=mean(oconseq, omoodswing, ofamily, oromance).
compute moDep=mean(odying, olostint, oworthless, ofeelsad).
compute moSchiz=mean(onobodyNo, osocializ, ogetme, oseethings).
```

There are now 8 subscales in the data base – 4 pretest subscales (mAnx, mbord, mDep, and mSchiz) and 4 followup subscales (moAnx, moBord, moDep, and moSchiz). The next syntax files performs an item analysis for each of the pretest subscales. The item analysis is calculated on the pretests only since the followup scores will be attenuated by the intervening treatment. That is, treatment would have lowered the high scores of each of the items on the subtest. They would probably not be completely "normal" but lowered so that the items analysis might not be significant. Not all of the output from the correlation run is shown below.

Only classical items analysis is used here – correlating each item of the subtest with the overall score of the subtest – in this instance the mean of the subtest. The correlations of each item with the corresponding mean of the subtest is shown in bold underlined font. Two different levels of correlations are suggested depending on the expert advice. Some experts suggest .70 as the cutoff and other suggest .80.

```
CORRELATIONS
  /VARIABLES=mAnx with eworry, ejumpy, emindrace, econcentrate
  /PRINT=TWOTAIL NOSIG
```

```
/STATISTICS DESCRIPTIVES
/MISSING=PAIRWISE.
```

Descriptive Statistics

	Mean	Std. Deviation	N
mAnx	3.6471	1.12381	51
eworry	3.6863	1.47635	51
ejumpy	3.5098	1.43349	51
emindrace	3.5294	1.48799	51
econcentrate	3.8627	1.38592	51

Correlations

		eworry	ejumpy	emindrace	econcentrate
mAnx	Pearson Correlation	.725**	.735**	.870**	.777**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	51	51	51	51

**. Correlation is significant at the 0.01 level (2-tailed).

.777

```
CORRELATIONS
  /VARIABLES=mBord with econseq, emoodswing, efamily, eromance
  /PRINT=TWOTAIL NOSIG
  /STATISTICS DESCRIPTIVES
  /MISSING=PAIRWISE.
```

Descriptive Statistics

	Mean	Std. Deviation	N
mBord	3.4363	1.10209	51
econseq	3.0980	1.50007	51
emoodswing	3.4902	1.30188	51

efamily	3.3725	1.31089	51
eromance	3.7843	1.28552	51

Correlations

		econseq	emoodswing	efamily	eromance
mBord	Pearson Correlation	.866**	.716**	.782**	.897**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	51	51	51	51

**. Correlation is significant at the 0.01 level (2-tailed).

```
CORRELATIONS
  /VARIABLES=mDep with edying, elostint, eworthless, efeelsad
  /PRINT=TWOTAIL NOSIG
  /STATISTICS DESCRIPTIVES
  /MISSING=PAIRWISE.
```

Descriptive Statistics

	Mean	Std. Deviation	N
mDep	3.1667	1.24566	51
edying	3.2353	1.40838	51
elostint	3.2353	1.39411	51
eworthless	3.1765	1.46569	51
efeelsad	3.0196	1.40699	51

Correlations

		edying	elostint	eworthless	efeelsad
mDep	Pearson Correlation	.789**	.898**	.887**	.937**
	Sig. (2-tailed)	.000	.000	.000	.000

N	51	51	51	51

**. Correlation is significant at the 0.01 level (2-tailed).

```
CORRELATIONS
  /VARIABLES=mSchiz with enobodyNo, esocializ, egetme, eseethings
  /PRINT=TWOTAIL NOSIG
  /STATISTICS DESCRIPTIVES
  /MISSING=PAIRWISE.
```

Descriptive Statistics

	Mean	Std. Deviation	N
mSchiz	2.7892	1.29361	51
enobodyNo	2.7255	1.52418	51
esocializ	3.3529	1.39748	51
egetme	2.8235	1.54539	51
eseethings	2.2549	1.71864	51

.597

Correlations

		enobodyNo	esocializ	egetme	eseethings
mSchiz	Pearson Correlation	.880**	.579**	.901**	.949**
	Sig. (2-tailed)	.000	.000	.000	.000
	N	51	51	51	51

**. Correlation is significant at the 0.01 level (2-tailed).

The item esocializ does not meet the criteria of reliability of .70 or .80.

The next procedure of Cronbach's Alpha will be used to assess the reliability of the items.
The following are the syntax files for the four subtest reliabilities. To see one method of obtaining the syntax files by clicks go here:
http://psy605q.com/Reliabilityg.pdf

```
RELIABILITY
  /VARIABLES=eworry, ejumpy, emindrace, econcentrate
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.


RELIABILITY
  /VARIABLES=econseq, emoodswing, efamily, eromance
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.


RELIABILITY
  /VARIABLES=edying, elostint, eworthless, efeelsad
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.


RELIABILITY
  /VARIABLES=enobodyNo, esocializ, egetme, eseethings
  /SCALE('ALL VARIABLES') ALL
  /MODEL=ALPHA
  /STATISTICS=DESCRIPTIVE SCALE
  /SUMMARY=TOTAL.
```

Only one (and incomplete) of the computed alpha reliability output procedures is presented here. For a more detailed description again go here: http://psy605q.com/Reliabilityg.pdf

Reliability Statistics

Cronbach's Alpha	N of Items
.781	4

ANX

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
eworry	10.9020	12.770	.498	.773
ejumpy	11.0784	12.794	.523	.760
emindrace	11.0588	10.776	.739	.643
econcentrate	10.7255	12.443	.598	.723

*low is good

Reliability Statistics

Cronbach's Alpha	N of Items
.831	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted

econseq	10.6471	10.233	.724	.757
emoodswing	10.2549	12.914	.516	.847
efamily	10.3725	12.118	.613	.807
eromance	9.9608	10.918	.808	.722

Reliability Statistics

Cronbach's Alpha	N of Items
.901	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
edying	9.4314	15.730	.637	.921
elostint	9.4314	14.290	.815	.859
eworthless	9.4902	14.015	.789	.868
efeelsad	9.6471	13.673	.882	.834

Reliability Statistics

Cronbach's Alpha	N of Items
.854	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
enobodyNo	8.4314	15.210	.777	.781
esocializ	7.8039	20.361	.354	.935
egetme	8.3333	14.747	.812	.765
eseethings	8.9020	12.850	.890	.722

Reliability Statistics

Cronbach's Alpha	N of Items
.781	4

Item Statistics

	Mean	Std. Deviation	N
eworry	3.6863	1.47635	51
ejumpy	3.5098	1.43349	51
emindrace	3.5294	1.48799	51
econcentrate	3.8627	1.38592	51

Redo this one

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
eworry	10.9020	12.770	.498	.773
ejumpy	11.0784	12.794	.523	.760
emindrace	11.0588	10.776	.739	.643

econcentrate	10.7255	12.443	.598	.723

do a factor analysis first?

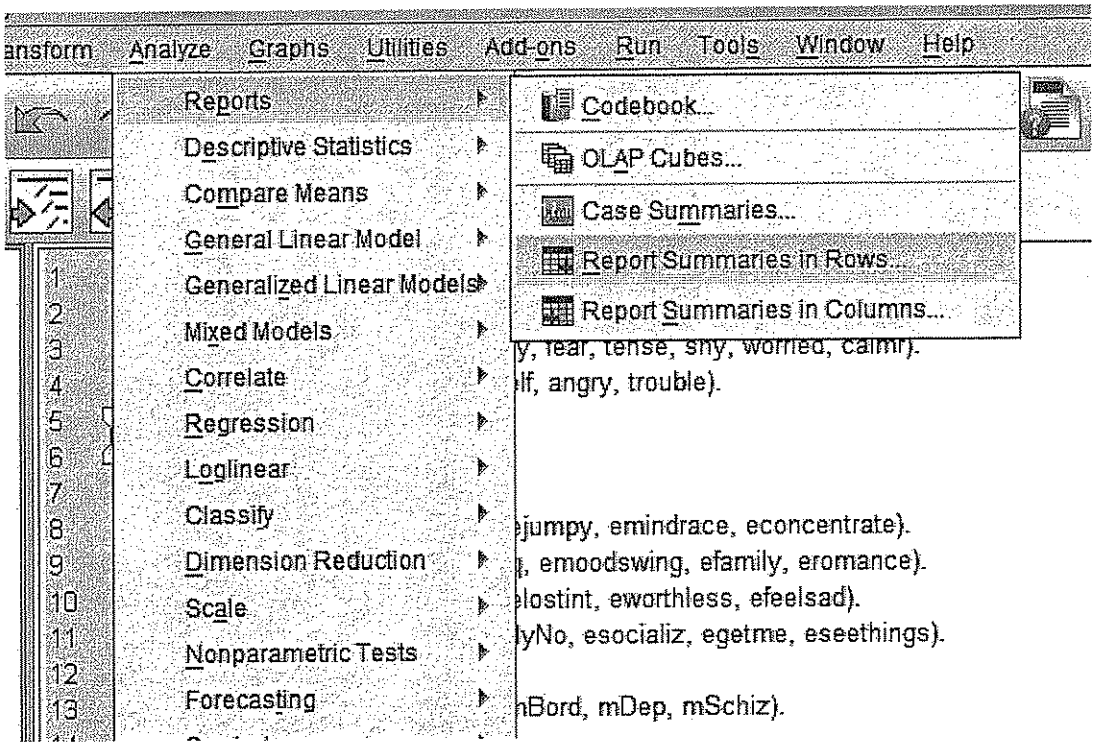
Generating Norms for a Test

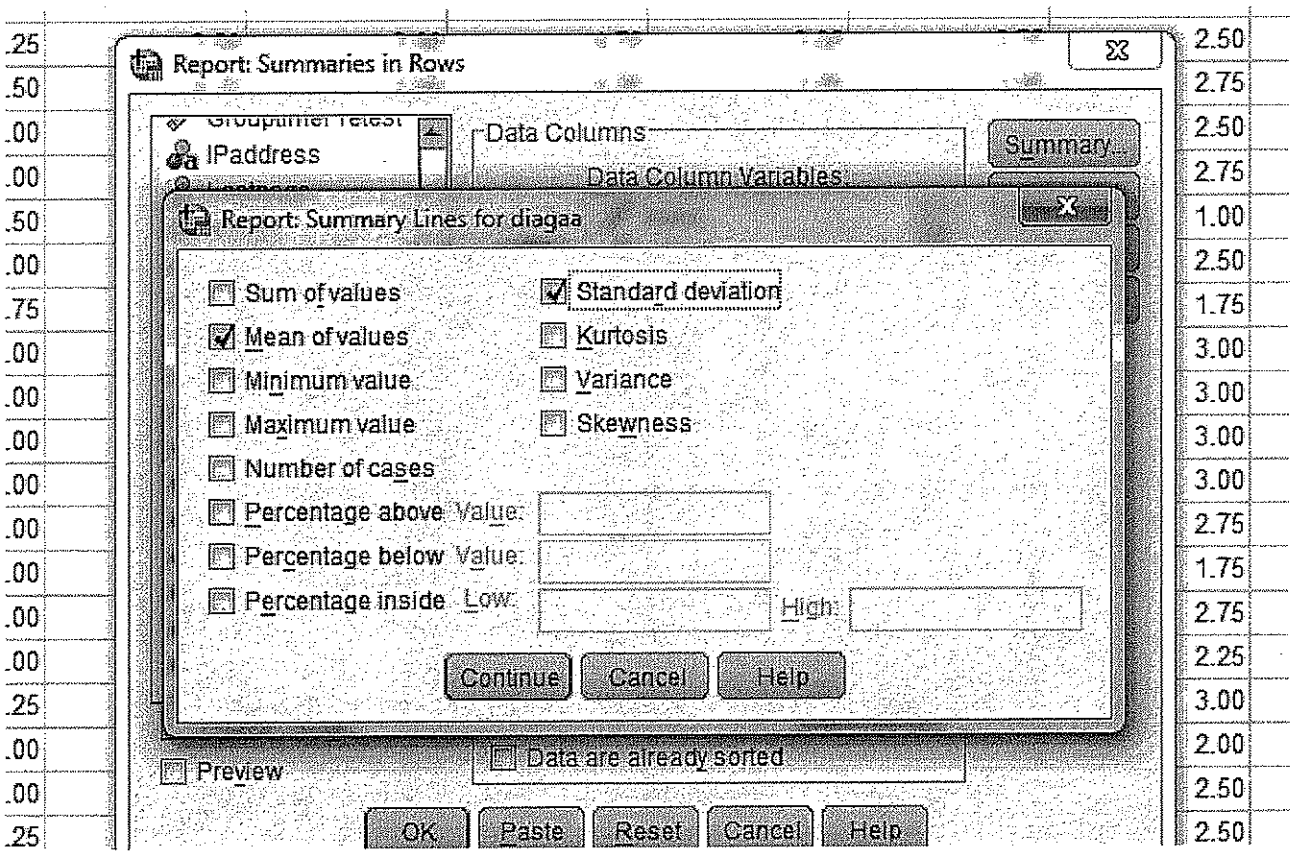
For a more detailed description go here:
http://psy605q.com/GeneratingNormsforATestg.pdf

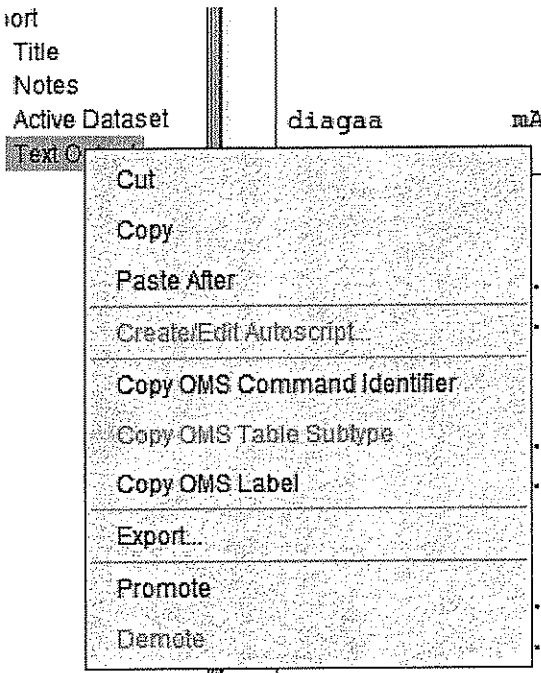
The generation of norms first requires getting the means and standard deviations of the subtests.
get ; hat
Obtaining means:

```
compute mAnx=mean(eworry, ejumpy, emindrace, econcentrate).
compute mBord=mean(econseq, emoodswing, efamily, eromance).
compute mDep=mean(edying, elostint, eworthless, efeelsad).
compute mSchiz=mean(enobodyNo, esocializ, egetme, eseethings).

compute mtotal=mean(mAnx, mBord, mDep, mSchiz).

SORT CASES BY diagn (A) .
```

Now use click method:


ansform Analyze Graphs Utilities Add-ons Run Tools Window Help
Reports
Descriptive Statistics
Compare Means
General Linear Model
Generalized Linear Models
Mixed Models
Correlate
Regression
Loglinear
Classify
Dimension Reduction
Scale
Nonparametric Tests
Forecasting
Codebook...
OLAP Cubes...
Case Summaries...
Report Summaries in Rows...
Report Summaries in Columns...
y, fear, tense, shy, worried, calmr).
lf, angry, trouble).
jumpy, emindrace, econcentrate).
, emoodswing, efamily, eromance).
lostint, eworthless, efeelsad).
lyNo, esocializ, egetme, eseethings).
nBord, mDep, mSchiz).

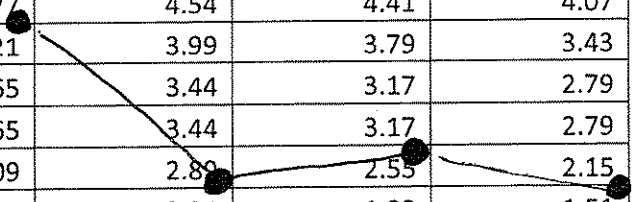

Report: Summaries in Rows
IPaddress
Data Columns
Data Column Variables:
Summary...
Report: Summary Lines for diagaa
Sum of values
Mean of values
Minimum value
Maximum value
Number of cases
Percentage above Value:
Percentage below Value:
Percentage inside Low:
High:
Standard deviation
Kurtosis
Variance
Skewness
Continue
Cancel
Help
Preview
Data are already sorted
OK
Paste
Reset
Cancel
Help



diagaa	mAnx	mBord	mDep	mSchiz
	.95	2.68	2.80	2.05
	.14	.61	.96	.58
	.85	4.70	3.03	2.05
	.06	.33	1.07	.50
	.13	2.98	4.73	2.10
	.66	1.15	.43	.69
Schiz				
Mean	3.27	3.73	2.32	4.70
StdDev	.92	.96	.91	.33
Grand Total				

diagaa	mAnx	mBord	mDep	mSchiz
Anx				
Mean	4.95	2.68	2.80	2.05
StdDev	.14	.61	.96	.58
Bord				
Mean	2.85	4.70	3.03	2.05
StdDev	1.06	.33	1.07	.50
Dep				
Mean	3.13	2.98	4.73	2.10
StdDev	.66	1.15	.43	.69
Schiz				
Mean	3.27	3.73	2.32	4.70
StdDev	.92	.96	.91	.33
Grand Total				
Mean	3.65	3.44	3.17	2.79
StdDev	1.12	1.10	1.25	1.29

SD	Percent	Anxoius	Borderline	Depressed	Schizophrenic
2	98	5	5	5	5
1.5	93	5	5	5	5
1	84	4.77	4.54	4.41	4.07
0.5	69	4.21	3.99	3.79	3.43
0	50	3.65	3.44	3.17	2.79
-0.5	31	3.65	3.44	3.17	2.79
-1	16	3.09	2.89	2.55	2.15
-1.5	7	2.53	2.34	1.93	1.51
-2	2	1.97	1.79	1.31	0.87



Case number 13 anx=4.5, bord=2.75, dep=2.75, schiz=2.00.

```
T-TEST PAIRS=mAnx mBord mDep mSchiz WITH moAnx moBord moDep moSchiz (PAIRED)
  /CRITERIA=CI(.9500)
  /MISSING=ANALYSIS.
```

T-Test

```
[DataSet1] Q:\RDDA\ques14\diagData-2-25-14.sav
```

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	mAnx & moAnx	51	.534	.000
Pair 2	mBord & moBord	51	.682	.000
Pair 3	mDep & moDep	51	.485	.000
Pair 4	mSchiz & moSchiz	51	.686	.000

Paired Samples Test

		Paired Differences				
					95% Confidence Interval of the Difference	
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper
Pair 1	mAnx - moAnx	.95915	.98197	.13750	.68297	1.23533
Pair 2	mBord - moBord	.90196	.80635	.11291	.67517	1.12875
Pair 3	mDep - moDep	.81863	1.08981	.15260	.51211	1.12514
Pair 4	mSchiz - moSchiz	.68627	.94319	.13207	.42100	.95155

Paired Samples Test

		t	df	Sig. (2-tailed)
Pair 1	mAnx - moAnx	6.975	50	.000
Pair 2	mBord - moBord	7.988	50	.000
Pair 3	mDep - moDep	5.364	50	.000
Pair 4	mSchiz - moSchiz	5.196	50	.000

```
GLM diffAnx diffBord diffDep diffSchiz BY diagaa
  /METHOD=SSTYPE(3)
  /INTERCEPT=INCLUDE
  /POSTHOC=diagaa(BONFERRONI)
  /CRITERIA=ALPHA(.05)
  /DESIGN= diagaa.
```

General Linear Model

```
[DataSet1] Q:\RDDA\ques14\diagData-2-25-14.sav
```

Between-Subjects Factors

		N
diagaa	Anx	15
	Bord	10
	Dep	12
	Schiz	14

Multivariate Tests[c]

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.686	24.084[a]	4.000	44.000	.000
	Wilks' Lambda	.314	24.084[a]	4.000	44.000	.000
	Hotelling's Trace	2.189	24.084[a]	4.000	44.000	.000
	Roy's Largest Root	2.189	24.084[a]	4.000	44.000	.000
diagaa	Pillai's Trace	1.449	10.739	12.000	138.000	.000
	Wilks' Lambda	.114	12.367	12.000	116.705	.000
	Hotelling's Trace	3.644	12.956	12.000	128.000	.000
	Roy's Largest Root	2.410	27.712[b]	4.000	46.000	.000

a. Exact statistic
b. The statistic is an upper bound on F that yields a lower bound on the significance level.
c. Design: Intercept + diagaa

Tests of Between-Subjects Effects

Source	Dependent Variable	F	Sig.
Corrected Model	diffAnx	5.649	.002
	diffBord	2.275	.092
	diffDep	10.798	.000
	diffSchiz	12.070	.000
Intercept	diffAnx	54.735	.000
	diffBord	71.724	.000
	diffDep	48.945	.000
	diffSchiz	38.447	.000
diagaa	diffAnx	5.649	.002
	diffBord	2.275	.092
	diffDep	10.798	.000
	diffSchiz	12.070	.000
Error	diffAnx		
	diffBord		
	diffDep		
	diffSchiz		
Total	diffAnx		
	diffBord		
	diffDep		
	diffSchiz		
Corrected Total	diffAnx		
	diffBord		
	diffDep		
	diffSchiz		

Post Hoc Tests

diagaa

Multiple Comparisons

Bonferroni

Dependent Variable	(I) diagaa	(J) diagaa	Mean Difference (I-J)	Std. Error	Sig.
diffAnx	Anx	Bord	1.1528	.35448	.013
		Dep	.9778*	.33629	.033
		Schiz	1.1385*	.32267	.006
	Bord	Anx	-1.1528*	.35448	.013
		Dep	-.1750	.37179	1.000
		Schiz	-.0143	.35951	1.000
	Dep	Anx	-.9778*	.33629	.033
		Bord	.1750	.37179	1.000
		Schiz	.1607	.34159	1.000
	Schiz	Anx	-1.1385*	.32267	.006
		Bord	.0143	.35951	1.000
		Dep	-.1607	.34159	1.000
diffBord	Anx	Bord	-.7417	.31728	.142
		Dep	-.0542	.30099	1.000
		Schiz	-.4024	.28880	1.000
	Bord	Anx	.7417	.31728	.142
		Dep	.6875	.33276	.266
		Schiz	.3393	.32178	1.000
	Dep	Anx	.0542	.30099	1.000
		Bord	-.6875	.33276	.266
		Schiz	-.3482	.30574	1.000
	Schiz	Anx	.4024	.28880	1.000
		Bord	-.3393	.32178	1.000
		Dep	.3482	.30574	1.000
diffDep	Anx	Bord	-.0750	.35308	1.000
		Dep	-1.2375*	.33496	.003
		Schiz	.6821	.32139	.235
	Bord	Anx	.0750	.35308	1.000
		Dep	-1.1625*	.37031	.018
		Schiz	.7571	.35808	.239
	Dep	Anx	1.2375*	.33496	.003
		Bord	1.1625*	.37031	.018
		Schiz	1.9196*	.34023	.000

Multiple Comparisons

Bonferroni

Dependent Variable	(I) diagaa	(J) diagaa	Mean Difference (I-J)	Std. Error	Sig.
diffDep	Schiz	Anx	-.6821	.32139	.235
		Bord	-.7571	.35808	.239
		Dep	-1.9196*	.34023	.000
diffSchiz	Anx	Bord	.2167	.29849	1.000
		Dep	-.0083	.28317	1.000
		Schiz	-1.3119*	.27170	.000
	Bord	Anx	-.2167	.29849	1.000
		Dep	-.2250	.31305	1.000
		Schiz	-1.5286*	.30272	.000
	Dep	Anx	.0083	.28317	1.000
		Bord	.2250	.31305	1.000
		Schiz	-1.3036*	.28763	.000
	Schiz	Anx	1.3119*	.27170	.000
		Bord	1.5286*	.30272	.000
		Dep	1.3036*	.28763	.000

Multiple Comparisons

Bonferroni

Dependent Variable	(I) diagaa	(J) diagaa	95% Confidence Interval	
			Lower Bound	Upper Bound
diffDep	Schiz	Anx	-1.5674	.2031
		Bord	-1.7435	.2292
		Dep	-2.8568	-.9825
diffSchiz	Anx	Bord	-.6055	1.0389
		Dep	-.7883	.7717
		Schiz	-2.0603	-.5635
	Bord	Anx	-1.0389	.6055
		Dep	-1.0873	.6373
		Schiz	-2.3624	-.6947
	Dep	Anx	-.7717	.7883
		Bord	-.6373	1.0873
		Schiz	-2.0959	-.5113
	Schiz	Anx	.5635	2.0603
		Bord	.6947	2.3624
		Dep	.5113	2.0959