Quiz #3 Another Canonical Correlation Example

In the last analysis we ended up with a "hint" of a diffuse structure, in that the Stress variable wasn't "contributing" to the single significant CV. However, there didn't seem to be any "leftovers" among the social support variables. One possibility is that a diffuse structure would be found if additional variables were added to the social support variables…

SPSS Code:

```
manova tss soss fass frss stanx tranx age  ← added a few variables
        with ruls dep stress
    / print signif(multiv dimenr eigen)
    / discrim stan corr.
```

Spss Output:

Multivariate Tests of Significance (S = 3, M = 1 1/2, N = 196 1/2)

Test Name	Value	Approx. F	Hypoth. DF	Error DF	Sig. of F
Pillais	.87999	23.54125	21.00	1191.00	.000
Hotellings	2.06182	38.65087	21.00	1181.00	.000
Wilks	.27645	30.52029	21.00	1134.78	.000
Roys	.63696				

Eigenvalues and Canonical Correlations

Root No.	Eigenvalue	Pct.	Cum. Pct.	Canon Cor.	Sq. Cor
1	1.755	85.096	85.096	.798	.637
2	.287	13.901	98.997	.472	.223
3	.021	1.003	100.000	.142	.020

Dimension Reduction Analysis

Roots	Wilks L.	F	Hypoth. DF	Error DF	Sig. of F
1 TO 3	.27645	30.52029	21.00	1134.78	.000
2 TO 3	.76149	9.63322	12.00	792.00	.000
3 TO 3	.97974	1.64164	5.00	397.00	.148

Standardized canonical coefficients for DEPENDENT variables

Variable	1	2	3
TSS	.460	-.062	.936
SOSS	-.070	-.352	-.882
FASS	-.069	.053	.006
FRSS	.135	-.308	-.001
STANX	-.454	-.385	-.046
TRANX	-.199	-.443	.183
AGE	-.108	.559	.038

Correlations between DEPENDENT and canonical variables

Variable	1	2	3
TSS	.739	-.158	.288
SOSS	.614	-.218	.087
FASS	.605	-.250	.444
FRSS	.660	-.217	.019
STANX	-.461	-.433	-.248
TRANX	-.164	-.605	.234
AGE	-.124	.739	-.013

Variance explained by canonical variables of DEPENDENT variables

CAN. VAR.	Pct Var DE	Cum Pct DE	Pct Var CO	Cum Pct CO
1	43.774	43.774	27.882	27.882
2	23.026	66.799	5.129	33.011
3	5.783	72.583	.117	33.129

Standardized canonical coefficients for COVARIATES

COVARIATE	1	2	3
RULS	-.663	.025	-.334
DEP	-.427	-.147	.977
STRESS	-.085	-.482	-.036

Correlations between COVARIATES and canonical variables

Covariate	1	2	3
RULS	-.916	.187	-.105
DEP	-.824	-.185	.293
STRESS	-.281	-.582	-.655

Variance explained by canonical variables of the COVARIATES

CAN. VAR.	Pct Var DE	Cum Pct DE	Pct Var CO	Cum Pct CO
1	37.163	37.163	58.344	58.344
2	5.373	42.536	24.119	82.463
3	.355	42.891	17.537	100.000

Construct a depiction of the "shared variance" among the variables and variates of this analysis.