

Discriminant Analysis Presentation

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Com 631 Multivariate Statistical Methods

CSU Spring 2019 Instructor Prof. Kim Neuendorf

SECTION I. THE MODEL

Dataset: Humor & Public Opinions Supplementary Survey 2009-2010 (Neuendorf & Skalski, with Atkin & Jeffres) N = 288 completed online survey via Survey Monkey in late 2009 and early 2010. All subjects were students at Cleveland State University, in COM 101, 131, 221, 226, 303, or 350

Independent Variables (X_1 through X_{30})

Questions F:1 through F:30 values

- F1. Equality (equal opportunity for all)
- F2. Inner Harmony (at peace with myself)
- F3. Social Power (control over others, dominance)
- F4. Pleasure (gratification of desires)
- F5. Freedom (freedom of action and thought)
- F6. A Spiritual Life (emphasis on spiritual not material matters)
- F7. Sense of Belonging (feeling that others care about me)
- F8. Social Order (stability of society)
- F9. An Exciting Life (stimulating experiences)
- F10. Meaning in Life (a purpose in life)
- F11. Politeness (courtesy, good manners)
- F12. Wealth (material possessions, money)
- F13. National Security (protection of my nation from enemies)
- F14. Self-Respect (belief in one's own worth)
- F15. Reciprocation of Favors (avoidance of indebtedness)
- F16. Creativity (uniqueness, imagination)
- F17. A World at Peace (free of war and conflict)
- F18. Respect for Tradition (preservation of time-honored customs)
- F19. Mature Love (deep emotional and spiritual intimacy)
- F20. Self-Discipline (self-restraint, resistance to temptation)
- F21. Detachment (from worldly concerns)
- F22. Family Security (safety for loved ones)
- F23. Social Recognition (respect, approval by others)
- F24. Unity with Nature (fitting into nature)
- F25. A Varied Life (filled with challenge, novelty, and change)
- F26. Wisdom (a mature understanding of life)
- F27. Authority (the right to lead or command)
- F28. True Friendship (close, supportive friends)
- F29. A World of Beauty (beauty of nature and the arts)
- F30. Social Justice (correcting injustice, care for the weak)

Dependent Variable (Y)

Open ended question regarding major coded with values 1 - 5

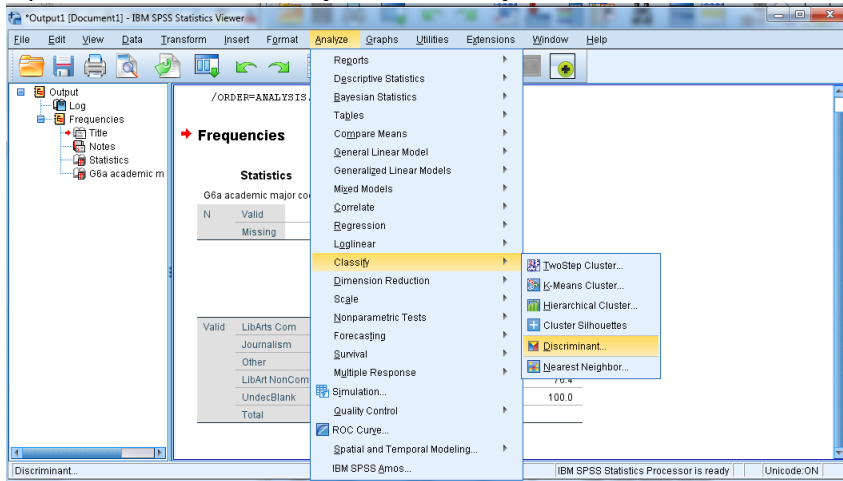
- 1 = "LibArts Com" (General Studies, Org Com, and Com Management)
- 2 = "Journalism" (Journalism, PR)
- 3 = "Other" (Business, Engineering, Nursing, Education, Psych)
- 4 = "LibArt NonCom" (Film, Digital Media, Language, Poly Sci, Music, Urban)
- 5 = "UndecBlank" (Undecided or Blank)

DFs

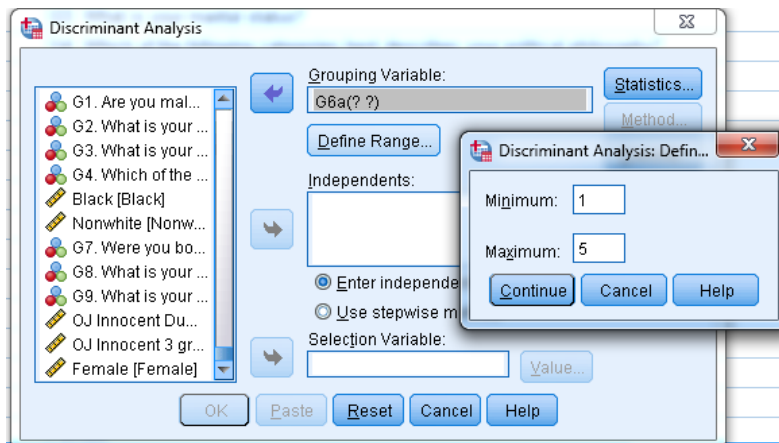
SECTION II. RUNNING SPSS

Open your dataset

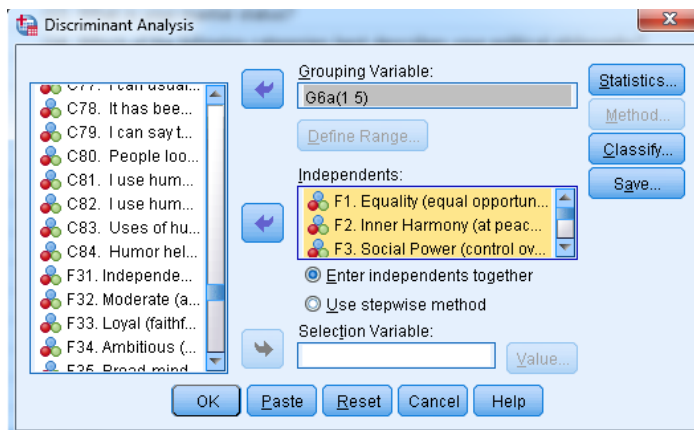
Open **Discriminant Analysis** → **Classify** → **Discriminant**



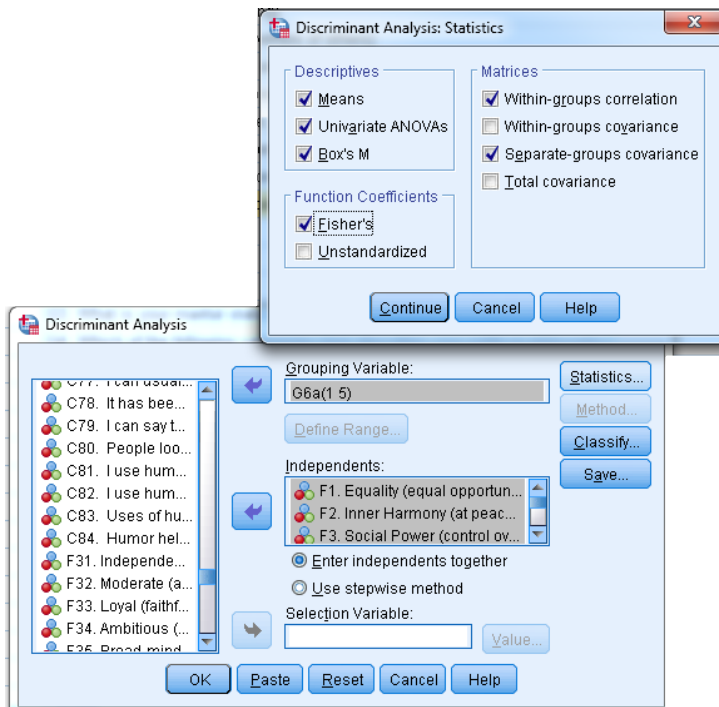
Select Dependent Variable from list in leftmost box and click on arrow to add to **Grouping Variable** box
Click **Define Range** and add your appropriate minimum and maximum range
Click Continue



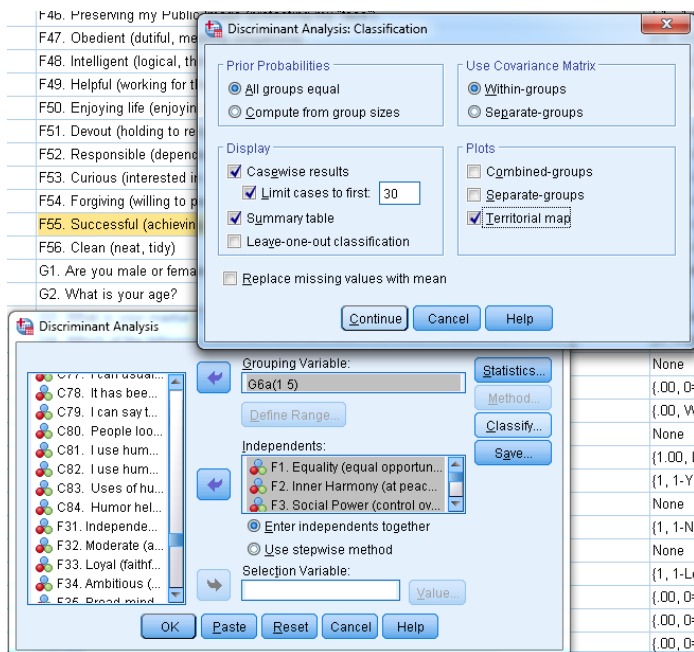
Select Independent Variables from list in leftmost box and click on arrow to add to **Independents** box
Click Define Range and add your appropriate range of variables then Click OK



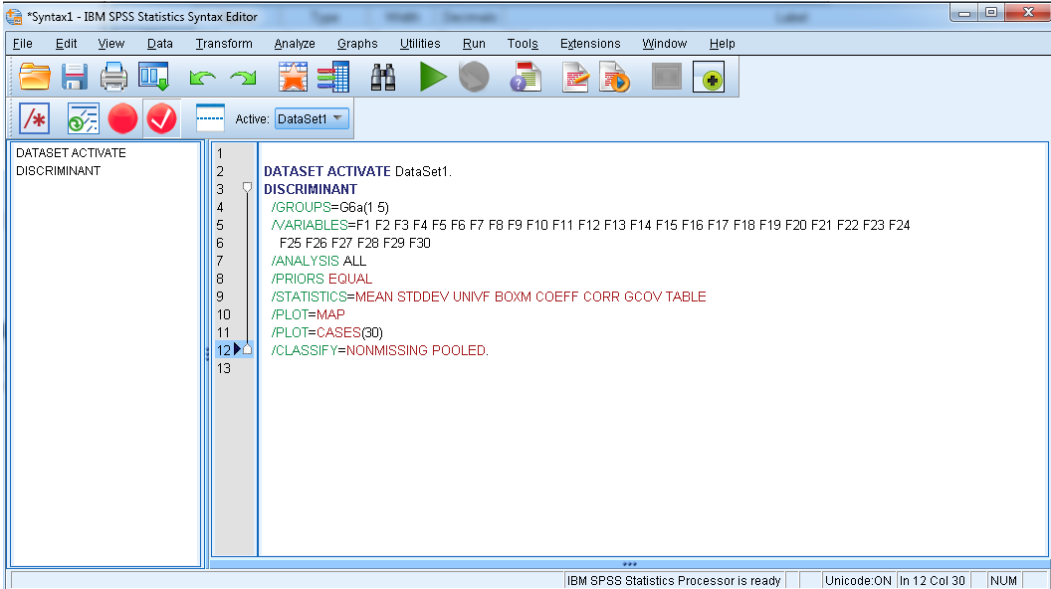
Click on **Statistics** and select the following
 Descriptives: **Means, Univariate ANOVAs, Box's M**
 Matrices: **Within-groups correlation, Separate-groups covariance**
 Function Coefficients: **Fisher's**
 Click Continue



Click **Classify** and select the following:
 Prior Probabilities: **All groups equal**
 Use Covariance Matrix: **Within-groups**
 Display: **Casewise results, Limit cases to first (enter number), Summary table**
 Plots: **Territorial map**
 Click Continue, then OK to run the analysis



Or click **Paste** to bring up the syntax in the syntax editor and run from there using green play button.



SECTION III. SPSS OUTPUT

FREQUENCIES VARIABLES=G6a
/ORDER=ANALYSIS.

Frequencies

		Notes
Output Created		01-APR-2019 16:59:06
Comments		
Input	Data	C:\Users\2107598\Documents\My SAS Files\HumorSupp0401HS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	288
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=G6a /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.02

Statistics

G6a academic major coded

N	Valid	288
	Missing	0

G6a academic major coded

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	LibArts Com	61	21.2	21.2	21.2
	Journalism	46	16.0	16.0	37.2
	Other	54	18.8	18.8	55.9
	LibArt NonCom	59	20.5	20.5	76.4
	UndecBlank	68	23.6	23.6	100.0
	Total	288	100.0	100.0	

DATASET ACTIVATE DataSet1.

DISCRIMINANT

/GROUPS=G6a(1 5)

/VARIABLES=F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16 F17 F18 F19 F20 F21 F22 F23 F24 F25 F26 F27 F28 F29 F30

/ANALYSIS ALL

/PRIORS EQUAL

/STATISTICS=MEAN STDDEV UNIVF BOXM COEFF CORR GCOV TABLE

/PLOT=MAP

/PLOT=CASES(30) /CLASSIFY=NONMISSING POOLED.

Discriminant

Notes

Output Created	01-APR-2019 17:04:56	
Comments		
Input	Data	C:\Users\2107598\Documents\My SAS Files\HumorSupp0401HS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	288
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing in the analysis phase.
	Cases Used	In the analysis phase, cases with no user- or system-missing values for any predictor variable are used. Cases with user-, system-missing, or out-of-range values for the grouping variable are always excluded.
Syntax	DISCRIMINANT /GROUPS=G6a(1 5) /VARIABLES=F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 F13 F14 F15 F16 F17 F18 F19 F20 F21 F22 F23 F24 F25 F26 F27 F28 F29 F30 /ANALYSIS ALL /PRIORS EQUAL /STATISTICS=MEAN STDDEV UNIVF BOXM COEFF CORR GCOV TABLE /PLOT=MAP /PLOT=CASES(30) /CLASSIFY=NONMISSING POOLED.	
Resources	Processor Time	00:00:00.09
	Elapsed Time	00:00:00.26

Analysis Case Processing Summary

Unweighted Cases		N	Percent
Valid		192	66.7
Excluded	Missing or out-of-range group codes	0	.0
	At least one missing discriminating variable	96	33.3
	Both missing or out-of-range group codes and at least one missing discriminating variable	0	.0
	Total	96	33.3
Total		288	100.0

Group Statistics

		Std. Devia tion	Valid N (listwise)		
			Un weighted	Weighted	
G6a academic major coded					
LibArts Com General Org Mgmt	F1. Equality (equal opportunity for all)	6.29	1.155	49	49.000
	F2. Inner Harmony (at peace with myself)	6.49	.938	49	49.000
	F3. Social Power (control over others, dominance)	3.14	2.415	49	49.000
	F4. Pleasure (gratification of desires)	5.82	1.364	49	49.000
	F5. Freedom (freedom of action and thought)	6.43	.957	49	49.000
	F6. A Spiritual Life (emphasis on spiritual not material matters)	4.82	2.360	49	49.000
	F7. Sense of Belonging (feeling that others care about me)	6.08	1.272	49	49.000
	F8. Social Order (stability of society)	5.71	1.414	49	49.000
	F9. An Exciting Life (stimulating experiences)	6.00	1.528	49	49.000
	F10. Meaning in Life (a purpose in life)	6.27	.995	49	49.000
	F11. Politeness (courtesy, good manners)	6.16	.986	49	49.000
	F12. Wealth (material possessions, money)	4.67	1.749	49	49.000
	F13. National Security (protection of my nation from enemies)	5.49	1.721	49	49.000
	F14. Self-Respect (belief in one's own worth)	6.55	.867	49	49.000
	F15. Reciprocation of Favors (avoidance of indebtedness)	4.71	1.915	49	49.000
	F16. Creativity (uniqueness, imagination)	6.14	1.137	49	49.000
	F17. A World at Peace (free of war and conflict)	6.14	1.208	49	49.000
	F18. Respect for Tradition (preservation of time-honored customs)	5.57	1.671	49	49.000
	F19. Mature Love (deep emotional and spiritual intimacy)	6.37	.883	49	49.000
	F20. Self-Discipline (self-restraint, resistance to temptation)	5.84	1.573	49	49.000
	F21. Detachment (from worldly concerns)	4.02	2.046	49	49.000
	F22. Family Security (safety for loved ones)	6.35	.991	49	49.000
	F23. Social Recognition (respect, approval by others)	5.65	1.588	49	49.000
	F24. Unity with Nature (fitting into nature)	4.76	2.156	49	49.000
	F25. A Varied Life (filled with challenge, novelty, and change)	5.37	1.728	49	49.000
	F26. Wisdom (a mature understanding of life)	6.31	1.194	49	49.000
	F27. Authority (the right to lead or command)	4.71	1.893	49	49.000
	F28. True Friendship (close, supportive friends)	6.49	.794	49	49.000
	F29. A World of Beauty (beauty of nature and the arts)	5.55	1.324	49	49.000
	F30. Social Justice (correcting injustice, care for the weak)	5.84	1.106	49	49.000
Journal	F1. Equality (equal opportunity for all)	6.08	1.612	39	39.000

ism + PR	F2. Inner Harmony (at peace with myself)	6.41	.910	39	39.000
	F3. Social Power (control over others, dominance)	2.97	2.218	39	39.000
	F4. Pleasure (gratification of desires)	5.38	1.350	39	39.000
	F5. Freedom (freedom of action and thought)	6.23	.902	39	39.000
	F6. A Spiritual Life (emphasis on spiritual not material matters)	5.00	2.026	39	39.000
	F7. Sense of Belonging (feeling that others care about me)	5.79	1.454	39	39.000
	F8. Social Order (stability of society)	5.15	1.329	39	39.000
	F9. An Exciting Life (stimulating experiences)	6.03	1.267	39	39.000
	F10. Meaning in Life (a purpose in life)	6.36	1.038	39	39.000
	F11. Politeness (courtesy, good manners)	5.90	1.294	39	39.000
	F12. Wealth (material possessions, money)	4.59	1.916	39	39.000
	F13. National Security (protection of my nation from enemies)	5.33	1.782	39	39.000
	F14. Self-Respect (belief in one's own worth)	6.36	1.088	39	39.000
	F15. Reciprocation of Favors (avoidance of indebtedness)	4.85	1.770	39	39.000
	F16. Creativity (uniqueness, imagination)	6.00	1.433	39	39.000
	F17. A World at Peace (free of war and conflict)	5.46	1.553	39	39.000
	F18. Respect for Tradition (preservation of time-honored customs)	5.15	1.927	39	39.000
	F19. Mature Love (deep emotional and spiritual intimacy)	5.59	1.517	39	39.000
	F20. Self-Discipline (self-restraint, resistance to temptation)	5.49	1.430	39	39.000
	F21. Detachment (from worldly concerns)	3.64	2.242	39	39.000
	F22. Family Security (safety for loved ones)	6.26	1.186	39	39.000
	F23. Social Recognition (respect, approval by others)	5.38	1.632	39	39.000
	F24. Unity with Nature (fitting into nature)	3.90	2.087	39	39.000
	F25. A Varied Life (filled with challenge, novelty, and change)	5.26	1.758	39	39.000
	F26. Wisdom (a mature understanding of life)	6.10	1.071	39	39.000
	F27. Authority (the right to lead or command)	4.62	1.872	39	39.000
	F28. True Friendship (close, supportive friends)	6.41	1.141	39	39.000
	F29. A World of Beauty (beauty of nature and the arts)	5.49	1.449	39	39.000
	F30. Social Justice (correcting injustice, care for the weak)	5.18	1.745	39	39.000

Other (Biz Educ Engin IT)	F1. Equality (equal opportunity for all)	5.88	1.382	41	41.000
	F2. Inner Harmony (at peace with myself)	5.93	1.385	41	41.000
	F3. Social Power (control over others, dominance)	3.12	2.462	41	41.000
	F4. Pleasure (gratification of desires)	5.29	1.553	41	41.000
	F5. Freedom (freedom of action and thought)	6.05	1.516	41	41.000
	F6. A Spiritual Life (emphasis on spiritual not material matters)	4.78	2.351	41	41.000
	F7. Sense of Belonging (feeling that others care about me)	5.73	1.659	41	41.000
	F8. Social Order (stability of society)	5.24	1.625	41	41.000
	F9. An Exciting Life (stimulating experiences)	5.71	1.365	41	41.000
	F10. Meaning in Life (a purpose in life)	6.00	1.225	41	41.000
	F11. Politeness (courtesy, good manners)	5.85	1.256	41	41.000
	F12. Wealth (material possessions, money)	4.41	2.121	41	41.000
	F13. National Security (protection of my nation from enemies)	5.51	1.690	41	41.000
	F14. Self-Respect (belief in one's own worth)	6.24	1.067	41	41.000
	F15. Reciprocation of Favors (avoidance of indebtedness)	4.73	1.831	41	41.000
	F16. Creativity (uniqueness, imagination)	5.73	1.245	41	41.000
	F17. A World at Peace (free of war and conflict)	5.44	1.689	41	41.000
	F18. Respect for Tradition (preservation of time-honored customs)	5.27	1.761	41	41.000
	F19. Mature Love (deep emotional and spiritual intimacy)	5.95	1.378	41	41.000
	F20. Self-Discipline (self-restraint, resistance to temptation)	5.73	1.361	41	41.000
	F21. Detachment (from worldly concerns)	3.98	2.127	41	41.000
	F22. Family Security (safety for loved ones)	6.10	1.158	41	41.000
	F23. Social Recognition (respect, approval by others)	4.68	1.823	41	41.000
	F24. Unity with Nature (fitting into nature)	4.68	2.115	41	41.000
	F25. A Varied Life (filled with challenge, novelty, and change)	5.41	1.612	41	41.000
	F26. Wisdom (a mature understanding of life)	6.22	1.037	41	41.000
	F27. Authority (the right to lead or command)	4.49	1.899	41	41.000
	F28. True Friendship (close, supportive friends)	6.20	1.453	41	41.000
	F29. A World of Beauty (beauty of nature and the arts)	4.88	1.805	41	41.000
	F30. Social Justice (correcting injustice, care for the weak)	5.32	1.331	41	41.000

LibArt NonCom (Film, Digital Media, Lang, Poly Sci, Music, Urban)	F1. Equality (equal opportunity for all)	5.96	1.564	50	50.000
	F2. Inner Harmony (at peace with myself)	6.26	1.139	50	50.000
	F3. Social Power (control over others, dominance)	2.52	2.674	50	50.000
	F4. Pleasure (gratification of desires)	5.20	1.629	50	50.000
	F5. Freedom (freedom of action and thought)	6.36	1.102	50	50.000
	F6. A Spiritual Life (emphasis on spiritual not material matters)	4.48	2.517	50	50.000
	F7. Sense of Belonging (feeling that others care about me)	5.64	1.562	50	50.000
	F8. Social Order (stability of society)	5.34	1.611	50	50.000
	F9. An Exciting Life (stimulating experiences)	5.84	1.283	50	50.000
	F10. Meaning in Life (a purpose in life)	5.94	1.463	50	50.000
	F11. Politeness (courtesy, good manners)	6.08	1.122	50	50.000
	F12. Wealth (material possessions, money)	4.10	2.252	50	50.000
	F13. National Security (protection of my nation from enemies)	4.98	1.720	50	50.000
	F14. Self-Respect (belief in one's own worth)	6.32	.978	50	50.000
	F15. Reciprocation of Favors (avoidance of indebtedness)	4.72	1.917	50	50.000
	F16. Creativity (uniqueness, imagination)	5.96	1.442	50	50.000
	F17. A World at Peace (free of war and conflict)	5.76	1.756	50	50.000
	F18. Respect for Tradition (preservation of time-honored customs)	4.80	2.030	50	50.000
	F19. Mature Love (deep emotional and spiritual intimacy)	6.08	1.192	50	50.000
	F20. Self-Discipline (self-restraint, resistance to temptation)	5.48	1.568	50	50.000
	F21. Detachment (from worldly concerns)	3.78	2.341	50	50.000
	F22. Family Security (safety for loved ones)	6.00	1.457	50	50.000
	F23. Social Recognition (respect, approval by others)	5.38	1.627	50	50.000
	F24. Unity with Nature (fitting into nature)	4.98	1.911	50	50.000
	F25. A Varied Life (filled with challenge, novelty, and change)	5.40	1.498	50	50.000
	F26. Wisdom (a mature understanding of life)	5.96	1.355	50	50.000
	F27. Authority (the right to lead or command)	4.42	2.167	50	50.000
	F28. True Friendship (close, supportive friends)	6.24	1.238	50	50.000
	F29. A World of Beauty (beauty of nature and the arts)	5.28	1.819	50	50.000
	F30. Social Justice (correcting injustice, care for the weak)	5.50	1.474	50	50.000

Undecided or Blank	F1. Equality (equal opportunity for all)	6.54	.967	13	13.000
	F2. Inner Harmony (at peace with myself)	6.08	1.320	13	13.000
	F3. Social Power (control over others, dominance)	4.77	2.351	13	13.000
	F4. Pleasure (gratification of desires)	6.31	.947	13	13.000
	F5. Freedom (freedom of action and thought)	6.23	1.641	13	13.000
	F6. A Spiritual Life (emphasis on spiritual not material matters)	4.23	2.803	13	13.000
	F7. Sense of Belonging (feeling that others care about me)	5.69	2.175	13	13.000
	F8. Social Order (stability of society)	5.69	1.437	13	13.000
	F9. An Exciting Life (stimulating experiences)	6.54	.877	13	13.000
	F10. Meaning in Life (a purpose in life)	6.69	.480	13	13.000
	F11. Politeness (courtesy, good manners)	6.00	1.472	13	13.000
	F12. Wealth (material possessions, money)	5.46	1.854	13	13.000
	F13. National Security (protection of my nation from enemies)	5.15	2.267	13	13.000
	F14. Self-Respect (belief in one's own worth)	6.38	1.446	13	13.000
	F15. Reciprocation of Favors (avoidance of indebtedness)	5.08	2.139	13	13.000
	F16. Creativity (uniqueness, imagination)	5.31	2.287	13	13.000
	F17. A World at Peace (free of war and conflict)	6.08	.862	13	13.000
	F18. Respect for Tradition (preservation of time-honored customs)	3.92	2.957	13	13.000
	F19. Mature Love (deep emotional and spiritual intimacy)	6.23	1.013	13	13.000
	F20. Self-Discipline (self-restraint, resistance to temptation)	5.69	1.494	13	13.000
	F21. Detachment (from worldly concerns)	4.15	2.375	13	13.000
	F22. Family Security (safety for loved ones)	5.54	1.713	13	13.000
	F23. Social Recognition (respect, approval by others)	5.08	2.178	13	13.000
	F24. Unity with Nature (fitting into nature)	4.23	2.421	13	13.000
	F25. A Varied Life (filled with challenge, novelty, and change)	5.54	1.391	13	13.000
	F26. Wisdom (a mature understanding of life)	6.08	.862	13	13.000
	F27. Authority (the right to lead or command)	5.08	1.441	13	13.000
	F28. True Friendship (close, supportive friends)	6.54	.776	13	13.000
	F29. A World of Beauty (beauty of nature and the arts)	5.85	1.519	13	13.000
	F30. Social Justice (correcting injustice, care for the weak)	5.54	2.184	13	13.000

Total	F1. Equality (equal opportunity for all)	6.09	1.406	192	192.000
	F2. Inner Harmony (at peace with myself)	6.27	1.129	192	192.000
	F3. Social Power (control over others, dominance)	3.05	2.485	192	192.000
	F4. Pleasure (gratification of desires)	5.49	1.476	192	192.000
	F5. Freedom (freedom of action and thought)	6.28	1.172	192	192.000
	F6. A Spiritual Life (emphasis on spiritual not material matters)	4.72	2.354	192	192.000
	F7. Sense of Belonging (feeling that others care about me)	5.81	1.535	192	192.000
	F8. Social Order (stability of society)	5.40	1.501	192	192.000
	F9. An Exciting Life (stimulating experiences)	5.94	1.344	192	192.000
	F10. Meaning in Life (a purpose in life)	6.17	1.179	192	192.000
	F11. Politeness (courtesy, good manners)	6.01	1.176	192	192.000
	F12. Wealth (material possessions, money)	4.51	2.018	192	192.000
	F13. National Security (protection of my nation from enemies)	5.31	1.762	192	192.000
	F14. Self-Respect (belief in one's own worth)	6.38	1.026	192	192.000
	F15. Reciprocation of Favors (avoidance of indebtedness)	4.77	1.867	192	192.000
	F16. Creativity (uniqueness, imagination)	5.92	1.403	192	192.000
	F17. A World at Peace (free of war and conflict)	5.75	1.538	192	192.000
	F18. Respect for Tradition (preservation of time-honored customs)	5.11	1.969	192	192.000
	F19. Mature Love (deep emotional and spiritual intimacy)	6.04	1.246	192	192.000
	F20. Self-Discipline (self-restraint, resistance to temptation)	5.64	1.487	192	192.000
	F21. Detachment (from worldly concerns)	3.88	2.188	192	192.000
	F22. Family Security (safety for loved ones)	6.13	1.257	192	192.000
	F23. Social Recognition (respect, approval by others)	5.28	1.720	192	192.000
	F24. Unity with Nature (fitting into nature)	4.59	2.105	192	192.000
	F25. A Varied Life (filled with challenge, novelty, and change)	5.38	1.616	192	192.000
	F26. Wisdom (a mature understanding of life)	6.14	1.160	192	192.000
	F27. Authority (the right to lead or command)	4.59	1.928	192	192.000
	F28. True Friendship (close, supportive friends)	6.35	1.143	192	192.000
	F29. A World of Beauty (beauty of nature and the arts)	5.34	1.617	192	192.000
	F30. Social Justice (correcting injustice, care for the weak)	5.48	1.483	192	192.000

Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
F1. Equality (equal opportunity for all)	.981	.907	4	187	.461
F2. Inner Harmony (at peace with myself)	.965	1.681	4	187	.156
F3. Social Power (control over others, dominance)	.955	2.214	4	187	.069
F4. Pleasure (gratification of desires)	.952	2.379	4	187	.053
F5. Freedom (freedom of action and thought)	.986	.672	4	187	.612
F6. A Spiritual Life (emphasis on spiritual not material matters)	.991	.430	4	187	.787
F7. Sense of Belonging (feeling that others care about me)	.988	.579	4	187	.679
F8. Social Order (stability of society)	.978	1.055	4	187	.380
F9. An Exciting Life (stimulating experiences)	.977	1.086	4	187	.365
F10. Meaning in Life (a purpose in life)	.965	1.682	4	187	.156
F11. Politeness (courtesy, good manners)	.989	.518	4	187	.723
F12. Wealth (material possessions, money)	.972	1.367	4	187	.247
F13. National Security (protection of my nation from enemies)	.985	.724	4	187	.577
F14. Self-Respect (belief in one's own worth)	.988	.561	4	187	.691
F15. Reciprocation of Favors (avoidance of indebtedness)	.997	.126	4	187	.973
F16. Creativity (uniqueness, imagination)	.976	1.159	4	187	.331
F17. A World at Peace (free of war and conflict)	.964	1.734	4	187	.144
F18. Respect for Tradition (preservation of time-honored customs)	.953	2.295	4	187	.061
F19. Mature Love (deep emotional and spiritual intimacy)	.953	2.320	4	187	.059
F20. Self-Discipline (self-restraint, resistance to temptation)	.989	.500	4	187	.736
F21. Detachment (from worldly concerns)	.994	.259	4	187	.904
F22. Family Security (safety for loved ones)	.972	1.333	4	187	.259
F23. Social Recognition (respect, approval by others)	.959	1.975	4	187	.100
F24. Unity with Nature (fitting into nature)	.965	1.699	4	187	.152
F25. A Varied Life (filled with challenge, novelty, and change)	.998	.093	4	187	.984
F26. Wisdom (a mature understanding of life)	.987	.615	4	187	.653
F27. Authority (the right to lead or command)	.992	.381	4	187	.822
F28. True Friendship (close, supportive friends)	.987	.597	4	187	.665
F29. A World of Beauty (beauty of nature and the arts)	.969	1.476	4	187	.211
F30. Social Justice (correcting injustice, care for the weak)	.974	1.247	4	187	.293

30x30 Correlation Matrix (too much to printout for copies)

Analysis 1

Box's Test of Equality of Covariance Matrices

Log Determinants

G6a academic major coded	Rank	Log Determinant
LibArts Com	30	-7.872
Journalism	30	-6.599
Other	30	-6.897
LibArt NonCom	30	-2.224
UndecBlank	. ^a	. ^b
Pooled within-groups	30	10.419

The ranks and natural logarithms of determinants printed are those of the group covariance matrices.

a. Rank < 13

b. Too few cases to be non-singular

Test Results^a

Box's M		3184.894
F	Approx.	1.558
	df1	1395
	df2	59042.260
	Sig.	.000

Tests null hypothesis of equal population covariance matrices.

a. Some covariance matrices are singular and the usual procedure will not work. The non-singular groups will be tested against their own pooled within-groups covariance matrix. The log of its determinant is 12.408.

Summary of Canonical Discriminant Functions

Eigenvalues				Canonical Correlation
Function	Eigenvalue	% of Variance	Cumulative %	
1	.379 ^a	39.2	39.2	.524
2	.267 ^a	27.6	66.9	.459
3	.226 ^a	23.4	90.3	.430
4	.094 ^a	9.7	100.0	.293

a. First 4 canonical discriminant functions were used in the analysis.

Wilks' Lambda				
Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 4	.426	147.861	120	.043
2 through 4	.588	92.087	87	.334
3 through 4	.745	51.002	56	.664
4	.914	15.596	27	.960

Standardized Canonical Discriminant Function Coefficients

	Function			
	1	2	3	4
F1. Equality (equal opportunity for all)	.068	.596	.147	-.185
F2. Inner Harmony (at peace with myself)	.175	-.387	.249	.252
F3. Social Power (control over others, dominance)	-.082	.412	.117	.284
F4. Pleasure (gratification of desires)	-.001	.193	-.033	.549
F5. Freedom (freedom of action and thought)	-.050	-.473	-.014	-.058
F6. A Spiritual Life (emphasis on spiritual not material matters)	.512	.031	-.011	-.196
F7. Sense of Belonging (feeling that others care about me)	.247	.206	-.542	.270
F8. Social Order (stability of society)	-.373	-.416	.034	.099
F9. An Exciting Life (stimulating experiences)	-.006	.160	.321	-.302
F10. Meaning in Life (a purpose in life)	.437	.210	.333	-.026
F11. Politeness (courtesy, good manners)	-.378	.080	.214	-.266
F12. Wealth (material possessions, money)	.088	.404	.009	.141
F13. National Security (protection of my nation from enemies)	.116	.373	-.206	.131
F14. Self-Respect (belief in one's own worth)	-.389	-.173	.063	.182
F15. Reciprocation of Favors (avoidance of indebtedness)	.044	.219	.089	-.359
F16. Creativity (uniqueness, imagination)	.344	-.373	-.292	.196
F17. A World at Peace (free of war and conflict)	-.241	-.189	.304	.262
F18. Respect for Tradition (preservation of time-honored customs)	.526	-.139	-.387	.454
F19. Mature Love (deep emotional and spiritual intimacy)	-.931	.060	.003	.239
F20. Self-Discipline (self-restraint, resistance to temptation)	-.082	.175	-.110	-.135
F21. Detachment (from worldly concerns)	-.127	.132	.066	.227
F22. Family Security (safety for loved ones)	.561	-.320	-.116	-.009
F23. Social Recognition (respect, approval by others)	-.089	-.764	.672	.035
F24. Unity with Nature (fitting into nature)	-.610	.155	-.353	-.347
F25. A Varied Life (filled with challenge, novelty, and change)	-.111	.127	-.423	-.264

F26. Wisdom (a mature understanding of life)	.283	.424	-.297	.389
F27. Authority (the right to lead or command)	.065	-.247	-.031	-.367
F28. True Friendship (close, supportive friends)	-.004	.491	.059	-.404
F29. A World of Beauty (beauty of nature and the arts)	.563	-.173	.685	-.014
F30. Social Justice (correcting injustice, care for the weak)	-.521	-.165	-.196	.137

Structure Matrix

	Function			
	1	2	3	4
F24. Unity with Nature (fitting into nature)	-.259*	-.131	-.165	.032
F6. A Spiritual Life (emphasis on spiritual not material matters)	.134*	-.026	-.057	.126
F25. A Varied Life (filled with challenge, novelty, and change)	-.063*	.043	-.003	-.010
F3. Social Power (control over others, dominance)	-.034	.356*	.200	.207
F23. Social Recognition (respect, approval by others)	.000	-.279*	.251	.278
F16. Creativity (uniqueness, imagination)	.061	-.265*	-.020	.220
F5. Freedom (freedom of action and thought)	-.064	-.161*	.130	.147
F29. A World of Beauty (beauty of nature and the arts)	.008	-.034	.348*	.201
F10. Meaning in Life (a purpose in life)	.102	.160	.298*	.234
F9. An Exciting Life (stimulating experiences)	.000	.101	.294*	.103
F15. Reciprocation of Favors (avoidance of indebtedness)	.016	.065	.077*	-.035
F18. Respect for Tradition (preservation of time-honored customs)	.128	-.153	-.247	.493*
F4. Pleasure (gratification of desires)	-.073	.187	.278	.485*
F19. Mature Love (deep emotional and spiritual intimacy)	-.290	-.034	.028	.429*
F17. A World at Peace (free of war and conflict)	-.180	-.067	.190	.405*
F30. Social Justice (correcting injustice, care for the weak)	-.165	-.085	.058	.381*
F8. Social Order (stability of society)	-.138	.003	.112	.365*
F7. Sense of Belonging (feeling that others care about me)	.024	-.034	.018	.354*
F26. Wisdom (a mature understanding of life)	.030	.057	-.072	.339*
F22. Family Security (safety for loved ones)	.143	-.169	-.104	.337*
F14. Self-Respect (belief in one's own worth)	-.013	-.065	.103	.300*
F13. National Security (protection of my nation from enemies)	.080	.088	-.109	.297*
F20. Self-Discipline (self-restraint, resistance to temptation)	-.041	.068	-.054	.294*
F2. Inner Harmony (at peace with myself)	.075	-.242	.213	.289*
F1. Equality (equal opportunity for all)	-.032	.059	.221	.273*

F12. Wealth (material possessions, money)	.028	.223	.203	.260*
F28. True Friendship (close, supportive friends)	.030	.014	.173	.244*
F11. Politeness (courtesy, good manners)	-.097	-.115	.080	.164*
F27. Authority (the right to lead or command)	-.001	.092	.128	.153*
F21. Detachment (from worldly concerns)	-.073	.076	-.016	.144*

Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions

Variables ordered by absolute size of correlation within function.

*. Largest absolute correlation between each variable and any discriminant function

Functions at Group Centroids

G6a academic major coded	Function			
	1	2	3	4
LibArts Com	-.171	-.235	.068	.489
Journalism	1.113	-.076	.292	-.121
Other	.028	.535	-.750	-.051
LibArt NonCom	-.535	-.495	.035	-.320
UndecBlank	-.724	1.331	1.097	-.089

Unstandardized canonical discriminant functions evaluated at group means

Classification Statistics

Classification Processing Summary

Processed	288
Excluded	0
Missing or out-of-range group codes	
At least one missing discriminating variable	96
Used in Output	192

Prior Probabilities for Groups

G6a academic major coded	Prior	Cases Used in Analysis
--------------------------	-------	------------------------

		Unweighted	Weighted
LibArts Com	.200	49	49.000
Journalism	.200	39	39.000
Other	.200	41	41.000
LibArt NonCom	.200	50	50.000
UndecBlank	.200	13	13.000
Total	1.000	192	192.000

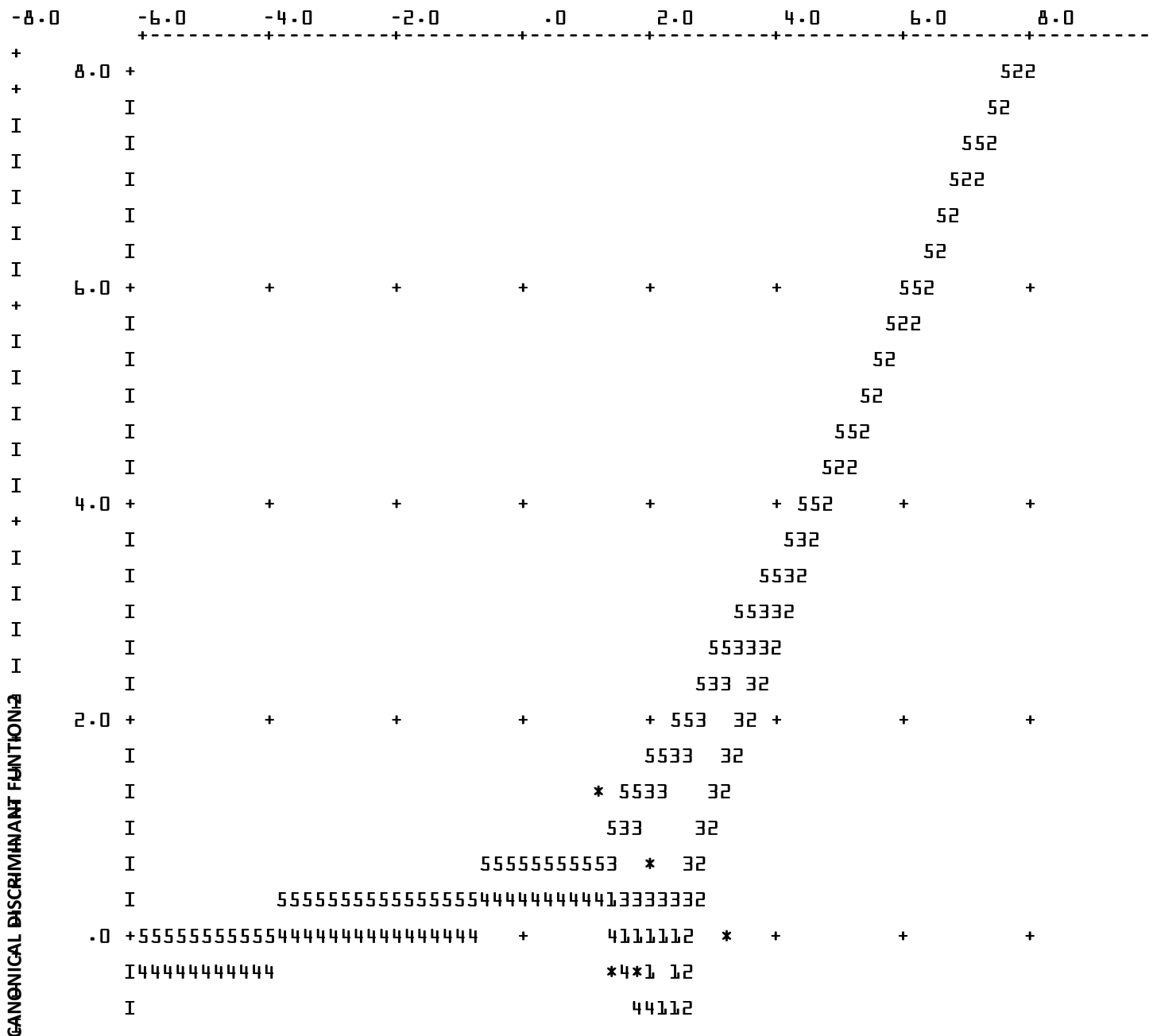
Classification Function Coefficients

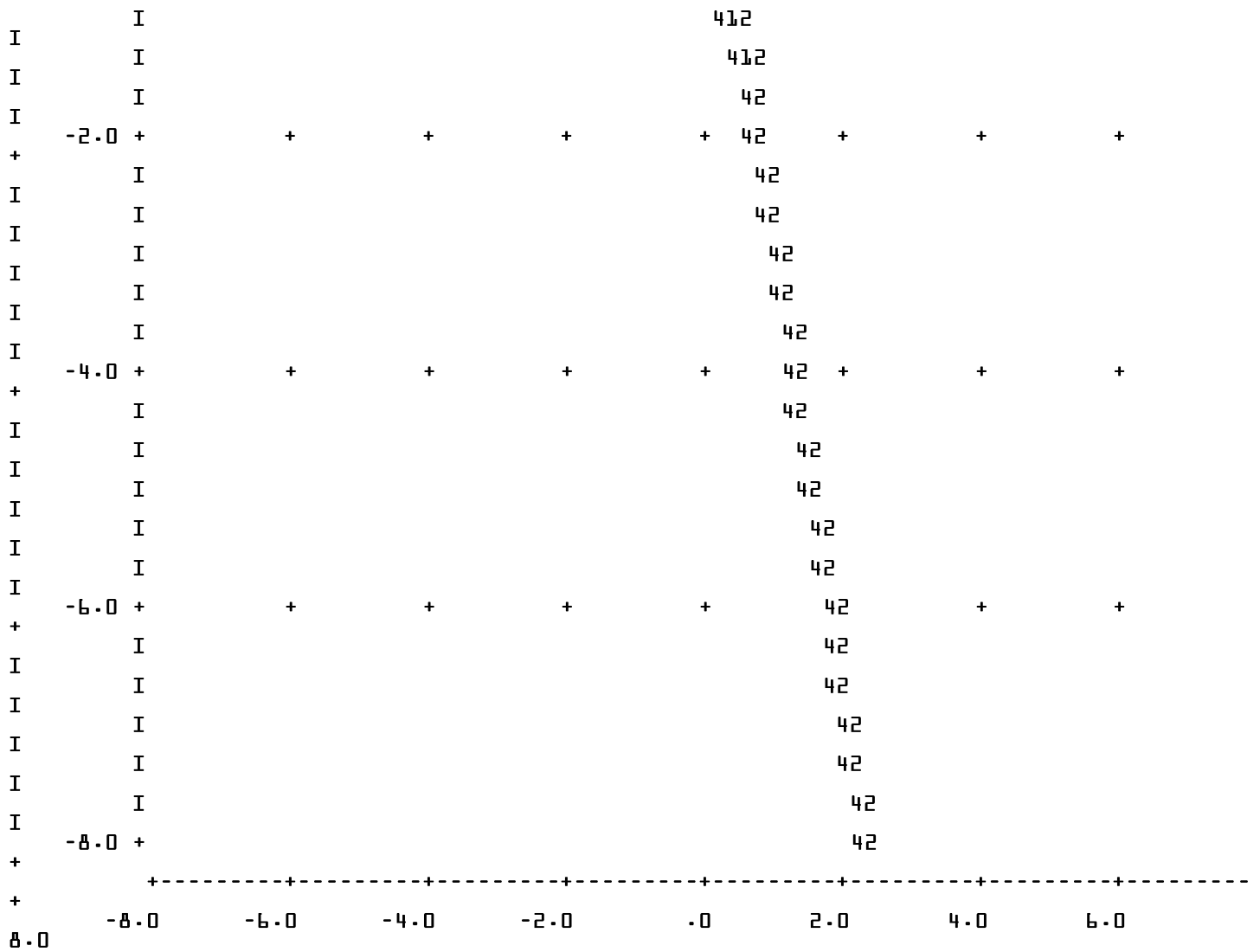
	G6a academic major coded				
	LibArts Com	Journalism	Other	LibArt NonCom	UndecBlank
F1. Equality (equal opportunity for all)	.238	.471	.559	.213	1.059
F2. Inner Harmony (at peace with myself)	2.112	2.171	1.574	1.956	1.584
F3. Social Power (control over others, dominance)	1.009	.933	1.031	.883	1.273
F4. Pleasure (gratification of desires)	.714	.499	.631	.375	.680
F5. Freedom (freedom of action and thought)	.218	.127	-.064	.379	-.371
F6. A Spiritual Life (emphasis on spiritual not material matters)	-.845	-.516	-.743	-.860	-.901
F7. Sense of Belonging (feeling that others care about me)	-1.237	-1.196	-.909	-1.461	-1.580
F8. Social Order (stability of society)	.408	.010	.092	.517	.097
F9. An Exciting Life (stimulating experiences)	-.572	-.368	-.556	-.428	-.008
F10. Meaning in Life (a purpose in life)	1.847	2.431	1.838	1.673	2.226
F11. Politeness (courtesy, good manners)	1.782	1.560	1.744	2.057	2.381
F12. Wealth (material possessions, money)	.425	.471	.547	.300	.680
F13. National Security (protection of my nation from enemies)	-.104	-.058	.127	-.239	.028
F14. Self-Respect (belief in one's own worth)	2.664	2.059	2.315	2.700	2.571
F15. Reciprocation of Favors (avoidance of indebtedness)	.390	.565	.548	.503	.717
F16. Creativity (uniqueness, imagination)	.184	.325	.124	.059	-.664
F17. A World at Peace (free of war and conflict)	.207	-.075	-.175	.152	.206
F18. Respect for Tradition (preservation of time-honored customs)	-.219	-.069	-.183	-.481	-.820
F19. Mature Love (deep emotional and spiritual intimacy)	1.383	.300	1.162	1.488	1.768
F20. Self-Discipline (self-restraint, resistance to temptation)	-.329	-.342	-.141	-.264	-.138
F21. Detachment (from worldly concerns)	.637	.517	.592	.558	.734
F22. Family Security (safety for loved ones)	.197	.716	.169	.110	-.542
F23. Social Recognition (respect, approval by others)	-.043	-.105	-.733	.063	-.322
F24. Unity with Nature (fitting into nature)	.185	-.115	.412	.412	.385

F25. A Varied Life (filled with challenge, novelty, and change)	- .852	- .887	- .506	- .708	- .865
F26. Wisdom (a mature understanding of life)	1.397	1.505	1.754	.952	1.377
F27. Authority (the right to lead or command)	-1.015	- .881	- .991	- .841	-1.140
F28. True Friendship (close, supportive friends)	1.446	1.736	1.922	1.619	2.374
F29. A World of Beauty (beauty of nature and the arts)	- .191	.342	- .548	- .298	- .111
F30. Social Justice (correcting injustice, care for the weak)	- .184	- .740	- .281	- .097	- .353
(Constant)	-38.467	-36.436	-35.094	-35.612	-42.044

Fisher's linear discriminant functions

Territorial Map (Assuming all functions but the first two are zero)





CANONICAL DISCRIMINANT FUNTION 1

Symbols used in territorial map

Symbol Group Label

- 1 LibArts Com
- 2 Journalism
- 3 Other
- 4 LibArt NonCom
- 5 UndecBlank
- * Indicates a group centroid

Casewise Statistics

Case Number	Actual Group	Predicted Group	Highest Group				Second Highest Group				Discriminant Scores			
			P(D>d G=g)		P(G=g D=d)	Squared Mahalanobis Distance to Centroid	Group	P(G=g D=d)	Squared Mahalanobis Distance to Centroid	Function 1	Function 2	Function 3	Function 4	
p	df													
Original 2	1	1	.943	4	.422	.764	4	.344	1.169	-.638	-.614	.702	.516	
3	1	3**	.986	4	.384	.358	4	.213	1.541	-.375	.658	-.394	-.283	
5	1	1	.720	4	.549	2.086	4	.304	3.267	-.671	-1.279	-.304	1.267	
6	4	4	.855	4	.381	1.336	3	.248	2.196	-.548	.279	-.021	-1.176	
8	5	2**	.860	4	.286	1.310	1	.257	1.521	.534	.717	.410	.456	
9	3	3	.968	4	.353	.554	2	.250	1.241	.463	.643	-.220	-.319	
11	3	3	.530	4	.433	3.166	1	.390	3.379	-.690	.421	-1.215	1.505	
12	1	4**	.713	4	.559	2.123	1	.238	3.831	-1.686	-.706	-.828	-.227	
13	1	3**	.502	4	.423	3.344	1	.358	3.681	-1.070	.760	-.979	1.376	
14	3	3	.523	4	.863	3.212	2	.050	8.901	.484	1.582	-2.094	-.371	
17	1	2**	.337	4	.409	4.551	4	.393	4.632	.763	-1.943	.618	-1.035	
18	2	1**	.428	4	.292	3.839	4	.248	4.167	.703	-1.371	-1.233	.189	
19	1	1	.582	4	.534	2.855	3	.198	4.843	.275	.365	-.016	2.002	
20	3	3	.510	4	.460	3.292	1	.253	4.490	-1.325	1.169	-.912	.966	
21	1	1	.840	4	.367	1.426	4	.287	1.922	-.318	-.401	1.232	.338	
23	1	1	.755	4	.404	1.898	4	.323	2.341	-1.410	-.161	-.450	.788	
24	2	2	.925	4	.361	.900	3	.253	1.611	.776	-.239	-.412	-.633	
25	3	4**	.964	4	.415	.594	1	.260	1.527	-.824	-.392	-.667	-.243	
28	4	1**	.998	4	.355	.140	3	.208	1.211	.121	-.003	.041	.485	
29	4	4	.695	4	.585	2.220	1	.164	4.768	-1.887	-.205	.161	-.858	
31	4	4	.053	4	.832	9.340	2	.071	14.266	-.530	-1.456	.073	-3.221	
32	3	1**	.991	4	.340	.275	4	.263	.786	-.355	.041	.402	.256	
34	4	4	.973	4	.586	.501	1	.248	2.219	-.849	-1.091	.115	-.524	
36	1	3**	.859	4	.349	1.315	2	.183	2.606	.124	.875	-.059	-.895	
38	4	1**	.976	4	.374	.472	4	.367	.511	-.750	-.423	.322	.295	
39	2	2	.052	4	.904	9.390	3	.077	14.319	3.634	-.214	-1.354	-.672	
41	4	4	.403	4	.605	4.022	1	.160	6.679	-.384	-1.283	1.583	-1.312	
42	2	5**	.385	4	.784	4.155	2	.150	7.464	.841	1.716	2.331	-.267	
43	3	3	.355	4	.606	4.393	4	.278	5.952	-.545	-.072	-2.102	-1.418	
46	2	3**	.868	4	.323	1.264	1	.295	1.447	.228	-.498	-1.009	.246	

** . Misclassified case

Classification Results^a

Original	Count	G6a academic major coded	Predicted Group Membership				Total	
			LibArts Com	Journalism	Other	LibArt NonCom		UndecBlank
		LibArts Com	18	7	9	11	4	49
		Journalism	5	24	6	3	1	39
		Other	7	6	22	2	4	41
		LibArt NonCom	13	4	5	23	5	50
		UndecBlank	2	1	0	3	7	13
%		LibArts Com	36.7	14.3	18.4	22.4	8.2	100.0
		Journalism	12.8	61.5	15.4	7.7	2.6	100.0
		Other	17.1	14.6	53.7	4.9	9.8	100.0
		LibArt NonCom	26.0	8.0	10.0	46.0	10.0	100.0
		UndecBlank	15.4	7.7	.0	23.1	53.8	100.0

a. 49.0% of original grouped cases correctly classified.

SECTION IV. TABLED RESULTS

TABLE 1. Discriminant Functions

Independent Variables	Standardized Canonical Coefficients				Structure Coefficients/Discriminant Loadings			
	DF1	DF2	DF3	DF4	DF 1:	DF2:	DF3:	DF4:
	Spiritually	Power			Spiritually	Power		
	Fixated	Hungry			Fixated	Hungry		
F24. Unity with Nature (fitting into nature)	-.61	.155	-.353	-.347	-.259*	-.131	-.165	.032
F6. A Spiritual Life (emphasis on spiritual not material matters)	.512	.031	-.011	-.196	.134*	-.026	-.057	.126
F25. A Varied Life (filled with challenge, novelty, and change)	-.111	.127	-.423	-.264	-.063*	.043	-.003	-.010
F3. Social Power (control over others, dominance)	-.082	.412	.117	.284	-.034	.356*	.200	.207
F23. Social Recognition (respect, approval by others)	-.089	-.764	.672	.035	.000	-.279*	.251	.278
F16. Creativity (uniqueness, imagination)	.344	-.373	-.292	.196	.061	-.265*	-.020	.220
F5. Freedom (freedom of action and thought)	-.05	-.473	-.014	-.058	-.064	-.161*	.130	.147
F29. A World of Beauty (beauty of nature and the arts)	.563	-.173	.685	-.014	.008	-.034	.348*	.201
F10. Meaning in Life (a purpose in life)	.437	.21	.333	-.026	.102	.160	.298*	.234
F9. An Exciting Life (stimulating experiences)	-.006	.16	.321	-.302	.000	.101	.294*	.103
F15. Reciprocation of Favors (avoidance of indebtedness)	.044	.219	.089	-.359	.016	.065	.077*	-.035
F18. Respect for Tradition (preserve time-honored customs)	.526	-.139	-.387	.454	.128	-.153	-.247	.493*
F4. Pleasure (gratification of desires)	-.001	.193	-.033	.549	-.073	.187	.278	.485*
F19. Mature Love (deep emotional and spiritual intimacy)	-.931	.06	.003	.239	-.290	-.034	.028	.429*
F17. A World at Peace (free of war and conflict)	-.241	-.189	.304	.262	-.180	-.067	.190	.405*
F30. Social Justice (correcting injustice, care for the weak)	-.521	-.165	-.196	.137	-.165	-.085	.058	.381*
F8. Social Order (stability of society)	-.373	-.416	.034	.099	-.138	.003	.112	.365*
F7. Sense of Belonging (feeling that others care about me)	.247	.206	-.542	.27	.024	-.034	.018	.354*
F26. Wisdom (a mature understanding of life)	.283	.424	-.297	.389	.030	.057	-.072	.339*
F22. Family Security (safety for loved ones)	.561	-.32	-.116	-.009	.143	-.169	-.104	.337*
F14. Self-Respect (belief in one's own worth)	-.389	-.173	.063	.182	-.013	-.065	.103	.300*
F13. National Security (protection of my nation from enemies)	.116	.373	-.206	.131	.080	.088	-.109	.297*
F20. Self-Discipline (self-restraint, resistance to temptation)	-.082	.175	-.11	-.135	-.041	.068	-.054	.294*
F2. Inner Harmony (at peace with myself)	.175	-.387	.249	.252	.075	-.242	.213	.289*
F1. Equality (equal opportunity for all)	.068	.596	.147	-.185	-.032	.059	.221	.273*
F12. Wealth (material possessions, money)	.088	.404	.009	.141	.028	.223	.203	.260*
F28. True Friendship (close, supportive friends)	-.004	.491	.059	-.404	.030	.014	.173	.244*
F11. Politeness (courtesy, good manners)	-.378	.08	.214	-.266	-.097	-.115	.080	.164*
F27. Authority (the right to lead or command)	.065	-.247	-.031	-.367	-.001	.092	.128	.153*
F21. Detachment (from worldly concerns)	-.127	.132	.066	.227	-.073	.076	-.016	.144*

Pooled within-group correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function.

* Largest absolute correlation between each variable and any discriminant function.

TABLE 2. Group Statistics

	DF1: Spiritually Fixated	DF2: Power Hungry	DF3:	DF4:
LibArts Com General Studies, Org Com, Com Mgmt	-.171	-.235	.068	.489
Journalism Journalism, PR	1.113	-.076	.292	-.121
Other Biz, Engin, Nursing, Education, Psych	.028	.535	-.750	-.051
LibArts NonCom Film, DigiMed, Lang, PolySci, Music, Urban	-.535	-.495	.035	-.320
Undecided or Blank	-.724	1.331	1.097	-.089
Wilks' Lambda	.426	.588	.745	.914
Chi-square	147.961	92.087	51.002	15.596
Significance	.043	.334	.664	.960
Eigenvalue	.379 _a	.267 _a	.226 _a	.064 _a
Canonical Correlation	.524	.459	.430	.293

a. First 4 canonical discriminant functions were used in the analysis

Table 3. Classification Results

Observed Group	Total Size	Predicted Group Membership				
		LibArts Com	Journalism PR	Other	LibArts NonCom	Undecided Blank
LibArts Com	61	18	7	9	11	4
Journalism PR	46	5	24	6	3	1
Other	54	7	6	3	1	39
LibArts NonCom	59	13	4	5	23	5
Undecided/Blank	68	2	1	0	3	7
Total	288					

a. 49.0% of original grouped cases correctly classified.

$$\text{Press' Q} = \frac{[N-(nK)]^2}{N(K-1)}$$

N=192 (total sample size)

n=75 (number of observations correctly classified)

K =5 (number of groups)

$$= \frac{[192-(75*5)]^2}{192(5-1)}$$

$$= \frac{183^2}{768}$$

$$= \frac{33489}{768}$$

$$= 43.61$$

Press' Q of 43.61 far exceeds the chi-square at p<.001 level (critical value is 10.83)

SECTION V. WRITE-UP

For this assignment, I applied a discriminant analysis to assess whether one's college major (dependent variable) could be predicted from a set of (30) variables that concerns what values the participants think are important. The data set used was the Humor & Public Opinions Supplementary Survey 2009-2010 (Neuendorf & Skalski, with Atkin & Jeffres). Participants, all students at Cleveland State University, rated each value variable as a guiding principle in their life, using a scale from 7 (of supreme importance) to 0 (not important) and -1 (opposed to my values). In the initial questionnaire, the question about major was open-ended, so I created a new variable and coded all responses into 5 somewhat balanced groups as follows:

- 1 = "LibArts Com" (General Studies, Org Com, and Com Management)
- 2 = "Journalism" (Journalism, PR)
- 3 = "Other" (Business, Engineering, Nursing, Education, Psych)
- 4 = "LibArt NonCom" (Film, Digital Media, Language, Poly Sci, Music, Urban)
- 5 = "UndecBlank" (Undecided or Blank)

I selected a total of 30 value-driven discriminating variables from the 56 value-driven questions on the questionnaire, to cast a wider but manageable net on the value profile of the students, curious to explore if any specific combination of values would be strongly associated with a particular field of study, and ran my analysis using SPSS. These variables were:

- | | |
|---|---|
| F1. Equality (equal opportunity for all) | F19. Mature Love (deep emotional and spiritual intimacy) |
| F2. Inner Harmony (at peace with myself) | F20. Self-Discipline (self-restraint, resistance to temptation) |
| F3. Social Power (control over others, dominance) | F21. Detachment (from worldly concerns) |
| F4. Pleasure (gratification of desires) | F22. Family Security (safety for loved ones) |
| F5. Freedom (freedom of action and thought) | F23. Social Recognition (respect, approval by others) |
| F6. A Spiritual Life (emphasis on spiritual not material matters) | F24. Unity with Nature (fitting into nature) |
| F7. Sense of Belonging (feeling that others care about me) | F25. A Varied Life (filled with challenge, novelty, and change) |
| F8. Social Order (stability of society) | F26. Wisdom (a mature understanding of life) |
| F9. An Exciting Life (stimulating experiences) | F27. Authority (the right to lead or command) |
| F10. Meaning in Life (a purpose in life) | F28. True Friendship (close, supportive friends) |
| F11. Politeness (courtesy, good manners) | F29. A World of Beauty (beauty of nature and the arts) |
| F12. Wealth (material possessions, money) | F30. Social Justice (correcting injustice, care for the weak) |
| F13. National Security (protection of my nation from enemies) | |
| F14. Self-Respect (belief in one's own worth) | |
| F15. Reciprocation of Favors (avoidance of indebtedness) | |
| F16. Creativity (uniqueness, imagination) | |
| F17. A World at Peace (free of war and conflict) | |
| F18. Respect for Tradition (preservation of time-honored customs) | |

The analysis produced four discriminant functions, only one of which was statistically significant at $p < .05$ (DF1 $p = .043$, DF2 $p = .334$, DF3 $p = .664$, DF4 $p = .960$). The first discriminant function was labeled “Spiritually Fixated” because of the 3 variables that clearly loaded--F24: Unity with Nature (fitting into nature), F6: A Spiritual Life (emphasis on spiritual not material matters), and F25: A Varied Life (filled with challenge, novelty, and change). Of these three, only F6: A Spiritual Life had a positive loading; the other two loaded negatively. Notably, the group centroid for this function was higher for Journalism and PR majors than for any other group, which could make sense when thinking of the material sacrifices one must make if trying to earn a living as a journalist. (Maybe austerity as a future measure to not compete with actual spirituality?) The Wilks’ Lambda for DF1, which examines how much the groups differ from the set, is .426, and can be referred to as the principal component of the analysis due to having the highest eigenvalue of all the functions (.379).

Although the other functions were not statistically significant, for the sake of this exercise and discussion, DF2 was labeled “Power Hungry” because of the 4 variables that loaded. The largest loading, and the only positive one, was for F3: Social Power (control over others, dominance). The other three variables that loaded were all negative (F23: Social Recognition; F16: Creativity; F5: Freedom). The group centroid for DF2: Power Hungry was highest at 1.331 for those who were undecided or left their major blank in the survey. This was more than double the next highest and only other positive centroid for D2, which is comprised of Business, Engineering, Nursing, Education, and Psychology majors. (Beware of people who won’t declare their major!)

Overall, from the discriminant analysis performed for this exercise, we might not perfectly be able to predict peoples’ exact majors by their value reportings, but actually 49% of the original group cases were correctly classified of the 192 total cases. The Press’ Q was calculated at 43.61, which far exceeds the chi-square (critical value is 10.83) and is significantly better than by chance.

The Box’s M test of equality of covariance matrices, which tests the assumption of homogeneity of variance/covariances across the DV groups is significant, indicating that the groups of majors are substantially different in how the values interrelate. This is a violation of the assumption of homoscedasticity.

If I were to rerun this data, I would be more explicit in differentiating the majors.