

Project Notes on the EPA Dictionary Compiled at Indiana University, 2001-3

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Questionnaire and Scaling Methodology

Procedures for selecting rating stimuli, lists of the stimuli, and the technology for obtaining ratings all are discussed in the on-line article: D. Heise, "Project Magellan: Collecting Cross-Cultural Affective Meanings Via the Internet." *Electronic Journal of Sociology*, 5 (2001), 3, at URL <http://www.sociology.org/content/vol005.003/mag.html>.

The 1,500 stimuli were partitioned into 15 stimuli sets containing about equal numbers of identities, behaviors, modifiers, and settings. Sets were randomly assigned to respondents.

The following questions preceded the rating task.

Are you: Female | Male

What is your dominant background? White | White Hispanic or Latino | Black or African American | Black Hispanic or Latino | American Indian or Native American | Native American Hispanic or Latino | Asian or Asian American | Other

Where in the U.S.A. did you mainly live prior to entering college?
New England = ME VT NH MA CT RI | Middle Atlantic = NY NJ PA
| East North Central = WI IL IN MI OH | West North Central = MN
IA MO ND SD NE KS | South Atlantic = DE MD WV VA NC SC GA
FL DC | East South Central = KY TN AL MS | West South Central
= AR OK LA TX | Mountain = MT ID WY NV UT CO AZ NM | Pacific
= WA OR CA AK HI | Not in U.S.A.

What is your marital status? Never Married | Now married |
Widowed | Divorced | Separated

Sample of Raters

294 A&S (Arts & Sciences) respondents were recruited, first by an ad in the Indiana University student newspaper, later by flyers distributed in sociology classes. These respondents were compensated with a \$5 Kroger gift certificate good for groceries, pharmaceuticals, or liquor.

803 Kelley School of Business students were recruited (through the leadership of Clare Francis) from an introductory management course. Participation was required as one part of a methodology practicum, and extra credit was given for participation very early in the semester. 25 additional records came from students doing repeats, including one student who did the survey three times. Thus the total number of Kelley records was 828.

In the combined sample of 1122, 93 respondents were dropped because they were non-indigenous to the U.S.A. (including 13 from the A&S sample). Then two business school respondents who skipped more than 95 stimuli were dropped. The final sample size is 1027, with 281 A&S respondents and 746 Kelley respondents.

Comparisons of Sub-samples

Table 1 gives the distribution of respondents in different stimuli sets, taking account of respondents' school and sex. Table 1 shows that the A&S sample had relatively few males, but the Kelley sample compensated for this.

Table 1
Number of Respondents: Stimulus Set by Sex by School

Stimulus Set	Females		Males		Totals
	A&S	Kelley	A&S	Kelley	
1	12	22	5	37	76
2	13	25	3	29	70
3	14	23	4	35	76
4	13	25	7	20	65
5	15	16	7	26	64
6	24	20	5	20	69
7	15	22	2	20	59
8	12	17	11	41	81
9	13	20	7	20	60
10	11	14	7	32	64
11	8	21	6	26	61
12	15	22	3	34	74
13	14	15	2	33	64
14	14	27	4	23	68
15	10	28	5	33	76
Sub-totals	203	317	78	429	
Totals	520		507		1027

Means from A&S and Kelley raters (males and females combined) were tested for significant differences to determine whether to pool the two samples. Each EPA dimension was considered separately, ratings for each of the 15 different stimuli sets were considered separately, and multivariate analysis of variance was used to deal with non-independence in the 100 dependent variables (E, P, or A), deriving from the fact that each respondent rated 100 stimuli. Before performing

MANOVAs, means across schools were substituted for missing data to prevent reduction in sample sizes due to list-wise deletion of cases.

Table 2 shows the significance levels obtained in each of the 45 MANOVAs. Six tests have a probability less than 0.05, which would be about twice as many as expected in 45 independent tests. The tests, however, are not independent since E, P, and A ratings were made by the same respondents.

Table 2
Significances from MANOVAs for A&S vs Kelley

Stimulus set	N	E	P	A
1	76	0.494	0.676	0.680
2	70	0.638	0.390	0.030
3	76	0.890	0.804	0.882
4	65	0.095	0.012	0.538
5	64	0.011	0.015	0.209
6	69	0.712	0.675	0.243
7	59	0.732	0.695	0.804
8	81	0.531	0.677	0.913
9	60	0.087	0.780	0.787
10	64	0.039	0.836	0.779
11	61	0.811	0.443	0.268
12	74	0.639	0.782	0.258
13	64	0.528	0.552	0.323
14	68	0.508	0.002	0.083
15	76	0.104	0.479	0.328

One way to clarify the MANOVA results is to compare school means for individual stimuli within those stimuli sets that have a significant MANOVA result. Following are the concepts for which A&S mean ratings and Kelley mean ratings differ, within the stimuli sets where MANOVA indicated that significant differences are present. An alpha criterion of 0.005 was used in the t-tests to adjust for the many tests being made¹.

Set 5 E: chasing, overpowering

Set 10 E: supervising

¹ A more adequate Bonferroni adjustment would divide the desired significance level of 0.05 by 100 (corresponding to the 100 comparisons being made within a stimulus set), yielding an adjusted alpha criterion of 0.0005. However, none of the tests have significant results by this criterion.

Set 4 P: threatening, wheedling, polite

Set 5 P: hombre

Set 14 P: scoffing at

Set 2 A: [none]

Only the difference in “supervising” (with business-school students evaluating the action more positively) seems substantively related to differences between the two samples of raters.

A second effort to find meaningful differences between the sub-samples focused on commerce-related identities, as coded independently for the simulation program, Interact². In this case, MANOVAs were run for each of the 124 commerce-related identities, with E, P, and A as the dependent variables. Nine³ of the tests were significant at the 0.05 level (unadjusted for the many non-independent tests), which is only slightly more than the six significant results that would be expected by chance⁴.

Overall, while the statistical analyses hint that raters in the two samples might differ in some of their sentiments, there is no evidence of a major difference in sentiments in the obvious area of difference between the sub-samples—business-related concepts.

Thus data from the two sub-samples were pooled to compute dictionary EPA profiles.

Sex Comparison

EPA profiles traditionally are computed separately for males and females in affect control theory dictionaries. Analyses were conducted (with A&E

² <http://www.indiana.edu/~socpsy/ACT/interact/JavaInteract.html>

³ Identities with significant differences are shown in bold among all 124 identities: **businessman**, **competitor**, foreman, malingerer, robber, saleslady, yes-man, advisor, applicant, assistant, coach, organizer, **receptionist**, salesman, skilled worker, spokesman, superior, VIP, attorney, clock watcher, laborer, millionaire, pimp, purchaser, shop clerk, worker, aide, apprentice, celebrity, client, foe, loafer, malcontent, pauper, sports fan, supervisor, athlete, **bureaucrat**, shoplifter, small businessman, traveler, villain, bouncer, co-worker, flight attendant, interviewee, **office boy**, racketeer, subordinate, superordinate, vacationer, entrepreneur, helper, lobbyist, teammate, do-nothing, freeloader, hooker, mobster, shopkeeper, tenant, toady, goof-off, **protégé**, retiree, secretary, temporary worker, unemployed person, consultant, **customer**, employee, failure, handyman, lackey, novice, scientist, shopper, strike breaker, crook, pornographer, right-hand man, Santa Claus, sexist, capitalist, colleague, leader, merchant, role model, salesclerk, underachiever, waitress, workman, workmate, bootlicker, computer expert, employer, girl Friday, has-been, intern, manager, negotiator, prostitute, scrooge, server, trainee, whore, **businesswoman**, gangster, gigolo, insider, interviewer, manageress, opportunist, **private eye**, strike leader, waiter, authority, boss, executive, flunky, partner, questioner, spokeswoman, union member

⁴ None of the tests are significant at the 0.0004 level, which constitutes a 0.05 alpha with a Bonferroni adjustment for the large number of non-independent tests.

and Kelley respondents pooled) to see if this is justified with the present data.

First, MANOVAs were run comparing male and female means, separately for 100 E, P, and A ratings within each of the 15 stimuli sets. Procedures were identical to the MANOVAs above comparing schools. The results are presented in Table 3.

Table 3
Significances from MANOVAs for Males vs Females

Stimulus set	E	P	A
1	.548	.353	.912
2	.805	.377	.904
3	.903	.537	.876
4	.193	.016	.119
5	.353	.028	.133
6	.549	.778	.721
7	.340	.962	.984
8	.457	.926	.433
9	.363	.024	.465
10	.833	.256	.252
11	.266	.947	.650
12	.313	.471	.707
13	.982	.979	.006
14	.029	.291	.000
15	.332	.240	.337

Table 3 is quite similar to Table 2 in the sense that six out of 45 analyses are significant at the 0.05 level. Comparing means within stimuli sets with significant MANOVAs yields the following concepts for which male mean ratings and female mean ratings differ, at a 0.005 level of significance.

14 E: businesswoman, euphoric

4 P: grinning at, theater

5 P: grading

9 P: [none]

13 A: [none]

14 A: businesswoman, head nurse, physician, imaginative, placid, self-righteous

Businesswoman is an explicitly-gendered occupation, and head nurse and physician may have been gendered in traditional culture, so male-female differences in sentiments about these concepts can be viewed as making some substantive sense. However, there seems to be little gender-relevance in the rest of the male-female differences.

Past research has indicated that males differ from females in sentiments about sexuality-related identities. This was tested in the current data by running MANOVAs, with EPA as the dependent variables, for all sexuality-related concepts, as determined in the independent coding of sexuality-relevance for program Interact. (These analyses parallel the MANOVAs of commerce-related identities above.)

Twenty-one⁵ of the 65 tests were significant at the 0.05 level (unadjusted for the many non-independent tests), which is far greater than the three significant results that would be expected by chance⁶.

Thus, there is reason to report male and female sentiments separately in the current dictionary.

The gender analyses provide a benchmark for reviewing the analyses of A&S-versus-Kelley differences. MANOVAs of all concepts rated by a set of respondents, considering one EPA dimension at a time, did not constitute a sensitive tool for uncovering male-female differences, so the lack of results in the parallel test for school differences can be viewed as unimportant. However, MANOVAs of all three EPA ratings, considering one concept at a time in a relevant domain, did reveal meaningful sex differences. Therefore, the failure to find meaningful differences in an equivalent analysis comparing schools gains weight as an indicator that raters from the two schools have similar sentiments.

⁵ Identities with significant differences are shown in bold among all 64 identities: lady-killer, ex-girlfriend, gynecologist, heterosexual, house husband, **loved one**, pickup, **womanizer**, girlfriend, **hunk**, lesbian, **pimp**, queer, **sweetheart**, masochist, **mistress**, sadist, **call girl**, female, man, newlywed, **nymphomaniac**, **skirt chaser**, bachelor, **boyfriend**, husband, true love, **woman**, homosexual, **hussy**, rival, **abortionist**, **ex-wife**, honeymooner, hooker, lecher, slut, swinger, voyeur, bisexual, **victim**, girl, stud, **child molester**, date, dyke, ex-husband, intimate, **pornographer**, tease, wife, ex-boyfriend, male, prostitute, **rapist**, soul mate, whore, adulteress, **gay**, **gigolo**, steady, **adulterer**, blind date, partner, spouse,

⁶ Again, none of the tests are significant at the Bonferroni adjusted 0.0008 level, which constitutes a 0.05 alpha with 65 non-independent tests.