

Superficiality and the Dimensionality of Sexism

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Good measurement of sexism depends on a determination of the dimensionality of this attitude, as well as on reliability and validity. Separate scales would need to be constructed for each of several distinct dimensions. If only one dimension exists, however, the best scale would sample from many areas along this dimension. Four studies investigated the dimensionality of sexism and the nature of the dimensions to assure that none represents superficial responding. A single, general attitude seems justified by the results: (1) transparent, easily distinguished pairs yield the same score as easily confused pairs in a forced-choice instrument; (2) females score higher, as do whites and non-singles; (3) feminists have higher scores but equal variances; (4) in the four separate samples only one factor is replicated.

Several scales have been created for measuring the attitude toward equality of the sexes. Because most inequities are at the expense of females rather than males, the negative or socially unacceptable pole of the attitude is usually called sexism, while the positive, acceptable pole is called feminism. A positive attitude toward equality of the sexes is interpreted as a positive attitude toward the current women's movement. Dempewolff (1972) defines this attitude as agreement with the goals of feminists, while Brannon (1976) discusses other scales.

Sexism has several conceivable subsidiary aspects. One aspect is a belief in essential, immutable differences between men and women. According to Brannon's "Taxonomy of Constructs Concerning Women," the following denote other aspects: (1) expectation of ladylike behavior; (2) extension of chivalrous courtesies; (3) emphasis on beauty as opposed to competence; (4) valuing of virginity and lack of concern with rape; (5) acceptance of traditional interpersonal relations; (6) assignment of domestic responsibilities only to women; and (7) disbelief in discrimination against women.

There are numerous ways to organize these aspects. Numbers (1), (2), and (5) form a social constellation; (3), (6), and (7) are concerned with women's development of abilities; and (4) and (5) are sexual in nature. Other organizing constructs might be traditional vs. contemporary outlook, political liberalism vs. conservatism, and domestic vs. career goals.

Three studies using different items have found a single dimension of sexism (Dempewolff, 1974; Smith, Ferree, & Miller, 1975; Spence, Helmreich, & Stapp, 1973). Spence and Helmreich (1972) identified two, three, and four factors in different samples. But the items in their scale, the Attitude Toward Women Scale (AWS), refer to more than just equality of the sexes. For example, the first item is: "Women have an obligation to be faithful to their hus-

bands," which confuses the legal aspects of marriage and sexism. No more than 10 of the 55 items are extraneous; a few, however, would suffice to determine additional factors. In the short version of AWS, the extraneous items have been removed; and one factor accounted for almost 70% of the variance (Spence, Helmreich, & Stapp, 1973).

Is it possible, as Hough and Allen (1975) suggest, that the unidimensional sexism scales measure superficial agreement, mere "lip service" to the goals of feminism? In addition to the dimensionality of sexism, the validity of the dimensions must also be determined. Superficiality thus becomes another issue of importance.

The questions of dimensionality and validity are investigated in the construction of the Korth Inventory of Sexist Sentiments (KISS). An attempt was made to find coherent subsidiary aspects of sexism that would define additional factors in a sexism scale. Four separate studies are reported below:

1. Comparison of similar and dissimilar items in a forced-choice form and construction of a rating form;
2. Comparison of male vs. female scores;
3. Comparison of means and variances of students and feminists;
4. Replication of factor analysis in four separate samples.

Subjects

Table 1 describes the five separate samples used in the different studies. Volunteers were solicited by a female assistant in public places in an attempt to secure a representative sample of males from the general population. Samples 1 and 2 were diverse (ages 14 to over 65, 10% non-white, many occupations); but there were too many young people (under 30), too many white-collar workers, and too few unemployed in comparison with the general population. These characteristics and the act of volunteering probably biased responses toward feminism. If this bias were an additive constant, however, it should not affect correlational results. Samples 3 and 4 were from the subject pool of the introductory psychology class at the University of Illinois at Chicago Circle (UICC), and all subjects received course credit. The feminists of sample 5 were volunteers who were attending an International Women's Year Conference (IWY) at the UICC campus. The typical woman attending this conference was a member of Business and Professional Women rather than the National Organization of Women, but all conferees were leaders in the women's movement. The age range was 18 to over 65. Of the 250 women in attendance approximately one-third returned the KISS. These were probably the more active feminists.

Table 1
Subjects and Tests Used

Sample	Subjects	Sex		Test
		M	F	
1	volunteers	95	0	40-item rating form
2	volunteers	65	0	40-item forced-choice
3	subject pool	48	48	40-item rating form
4	subject pool	62	79	71-item rating form
5	feminists	0	80	71-item rating form

Study 1: Forced-Choice vs. Rating Format

A forced-choice instrument can be used to control superficial responding. In these studies, superficial responding means choosing feminist responses according to criteria extraneous to the attitude of feminism; it is an increased readiness to accept feminist goals without a commitment to equality of the sexes. Determiners which may be extraneous to the degree of feminism should contribute to a larger standard deviation for the discrimination between the two choices. In Thurstone's (1927) terms, the discriminational process will have greater discriminational dispersion when there is a greater number of determiners; and there will be greater "confusion" for all items. Alternatives that are similar in scale value (i.e., alternatives that are difficult to discriminate) will be "confused" more frequently than those that are dissimilar in scale value. Items that pair similar alternatives may be compared with items that pair dissimilar alternatives. If there is no difference in mean response, there can be no systematic superficial responding.

Method

Item construction. Previous scales, conversations with feminists, and feminist literature produced numerous potential items, which were designed to represent eight categories: (1) differences in abilities between males and females; (2) differences in temperament; (3) male aggression, including rape; (4) personal control of one's body; (5) the double standard; (6) interpersonal relations; (7) domestic responsibilities; and (8) women in business and politics. Because a forced-choice scale was to be constructed, 100 positive items and 99 negative versions of them were written. The pairs of alternatives were separated to form two questionnaires of 100 and 99 items; each was given to independent groups of feminists who served as judges. These groups were composed of both volunteers who were members of ten different organizations with

feminist goals and volunteers who were unaffiliated feminists. Since this was preliminary testing, only 19 feminists rated the 99-item form and 20 rated the 100-item form. Subjects were asked to rate each item from 1 to 9, where 9 is high agreement, for its degree of agreement with feminists. Any item that was considered ambiguous or meaningless could be rated zero.

Samples of 19 and 20 are small; but that, of course, means low statistical power. Any significant difference found in such small samples would have a high probability of being replicated in a larger sample.

The results from the feminists were used to construct two forms: the forced-choice form and a rating scale form (to be described below). Items with large variance, with unusual distributions of responses, or with many zero responses were eliminated from all consideration. Five items in each of the eight categories were to be included in each form. For the forced-choice form, half of the a priori pairs of alternatives had differences of 3.9 or greater in mean rating; and half had smaller differences. All pairs yielded significant *t*-tests, since there would be no reason to include alternatives that could not be discriminated by feminists. The *t* values may be more meaningful than the absolute mean difference in rating, since the *t* includes information about the variance. The *t* values of the high and low difference pairs almost did not overlap, and the mean *t* values for the two groups were very different. For low difference pairs, the mean *t* was 5.18; and for high difference pairs, the mean *t* was 17.90. These large values arise from the small variances of the feminists' ratings, which were appropriate for this task of judging.

The forced-choice form contains 40 pairs. The 20 pairs with a small difference in mean rating (less than 3.9) were considered to have low discriminability. It should be more difficult to select the feminist alternative if extraneous determiners are operating. The other 20 pairs (3.9 or greater) were easily discriminated. The following example, of a neutral alternative (b)

against a sexist one (a), illustrates a pair in which the discrimination is difficult:

- (a) A female drunk irritates me more than a male drunk.
- (b) Violent drunks repel me.

The next example, a feminist alternative (a) against a sexist one (b), illustrates an easily discriminated pair:

- (a) Girls should receive as many athletic scholarships as boys.
- (b) Boys should receive more athletic scholarships, because boy's sports are more interesting.

If responses are made without conviction, this will systematically lower scores for those items with small scale differences. Choosing the feminist alternative was scored 2, choosing the other was scored 1. An item that was meaningless to the respondent could be skipped, in which case the average of the other items was inserted.

The rating form contained 40 items to be rated from 1 to 9; ambiguous or meaningless items could be rated zero. Items which were rated zero were assigned the average of rated items. Although half the items were expressed negatively, they were reversed so that high scores meant agreement with feminists.

Subjects using both forms were asked for information concerning age, occupation, and political viewpoint.

Subjects. Sample 1 was used for the rating form. Sample 2 was used for the forced-choice form.

Results

Superficial responding was tested by comparing the mean of the 20 item-pairs with small differences to the mean of the 20 item-pairs with large differences. The means (33.16 for small differences and 33.29 for large differences) were indistinguishable.

The similarities between the psychometric characteristics of the two forms were striking. The percentage of zero responses was 4.3% for the rating form and 1.4% for the forced-choice

form. The mean total score was 56% of the maximum for the rating form and 67% for the forced-choice form. Coefficient alpha as a measure of reliability was .84 for the rating form and .83 for the forced-choice form. The mean item-total correlation was .32 for the rating form and .36 for the forced-choice form.

Two unweighted means $2 \times 2 \times 2$ subjects ANOVAS were performed. Age (over 30 vs. 29 and under), political view (liberal vs. conservative divided at median), and occupation (white collar vs. others) were used as factors; and total feminism score was used as the dependent variable. The *F* ratio for political view was significant for both forms [$F(1,86) = 4.61$ and $F(1,57) = 7.37$]. Other main effects were not significant.

Interactions were not significant when the dependent variable was the forced-choice scores. When the dependent measure was the rating form score, however, two interactions were significant: age by occupation and age by politics.

Appearance of significant interactions indicates that the rating form was more sensitive than the forced-choice form. There are not only more scale values, but these scale values genuinely reflect finer gradations of the attitude. Besides this apparent sensitivity, the reasons given by Brannon (1976) and Seiler and Hough (1969) support use of the rating form instead of the forced-choice form. A theoretical argument in favor of the rating form is that its nine-point scales are more appropriate for any correlational analysis than the dichotomous scales of the forced-choice form. The rating form also has the practical advantage of requiring less testing time per item.

Nevertheless, the results from the forced-choice form contradicted some expectations about forced-choice instruments in general. The results exemplify a forced-choice instrument in which the choices were neither difficult nor objectionable, given the low rate of marking the zero response. The results also exemplify a forced-choice instrument in which the item-total correlations were high; in fact, they were higher than those for the rating form. If there were a

need to control some item characteristic, such as social desirability, the forced-choice format might be favored; however, this does not seem necessary.

Study 2: Males vs. Females

There are large and consistent differences between males and females on measures of feminism (Dempewolf, 1972; Spence & Helmreich, 1972; Greenhouse & Rosenthal, 1974). Male and female subjects were, therefore, tested to see if this difference would occur on the 40-item rating form of the KISS.

Method

Subjects. Sample 3 was used.

Instrument. The 40-item form of the KISS was administered along with other tests. Sex, age, race, occupation, and marital status were obtained so that the relation of feminism to these variables could be seen. Previously sex had been related to feminism; therefore only the sex by age analysis of variance can be statistically justified. Since the other analyses are probably dependent on this, the results from them must be cautiously interpreted.

Results

The group means and the F ratios for the ANOVA's are given in Table 2. The groups with higher feminism scores were female, white, and non-single; occupation did not relate to feminism. The sex by age interaction was not statistically significant.

Study 3: Students vs. Feminists

Although the 40-item KISS has adequate reliability, 31 new items were written to increase the reliability. The 31 new items were intended to explore the new areas of personal relationships, children, and the feminist movement, as well as to include several transparently sexist items. Since feminists should have significantly

Table 2
Unweighted Means in
Sample 3 Using 40-Item KISS as
Dependent Variable and F-ratios

Group	Mean	F
Sex		
males	243.0	11.93**
females	266.3	
Age		
20 or older	252.2	.51
under 20	257.0	
Race		
whites	260.4	6.56*
non-whites	239.2	
Marital Status		
never married	251.7	4.49*
married or formerly married	276.9	
Occupation		
none	266.2	1.96
skilled	242.3	
blue collar	261.4	
white collar	250.2	

* $p < .05$

** $p < .001$

higher scores than those of average college students, the differences between a student group and a group of feminists can be used to validate both the original items and the 31 new items.

Another test of superficiality can be made by testing the difference in the variances for students and feminists, after the test of mean differences. If superficiality elevates the scores for these two groups, and the feminists score significantly higher, it would be expected that the scores of feminists would suffer from a ceiling effect, restricting the variance. If the variances are not significantly different, then mere "lip service" is not an important consideration. Such superficial responding may elevate the mean, so that a score of 100 means zero agreement with feminist ideals. In most scales, however, the zero point is arbitrary. To be noteworthy, superficiality must be shown to control variance.

Method

Subjects. Samples 1, 3, 4, and 5 were used.

Instrument. The 40 original items for some samples and 40 original plus 31 new items for other samples were administered.

Results

All rating form data was used to test the differences on the first 40 items among Samples 1, 3, 4, and 5. There was a significant difference in the 40-item total scores between the conferees (Sample 5) and three other groups [$F(3,407) = 52.11$]. Means were: (1) 231.4; (3) 254.1; (4) 237.3; and (5) 289.0.

By a one-way ANOVA, four of the 40 items had insignificant differences ($p > .10$) among the four groups, which indicates that they should not be retained. Three items were acceptable at only the .10 level, but seemed to correlate well with other items; five met the .05 critical level; and the other 28 met the .001 level. The students' scores for the 31 new items were compared to the feminists' scores (Samples 4 and 5). Two of these items were eliminated because of poor correlations with other items. By a one-way ANOVA, 28 items discriminated at the .01 level or better, and the other item discriminated at the .025 level. In all, 65 of the 71 items should be retained: 36 of the original 40 and 29 of the new 31 items.

The mean score on the 71-item instrument for the students was 390.8 and 492.8 for IWY conferees. The difference was statistically significant [$F(1,219) = 162.1$]. Even for the feminist group, the standard deviation (52.2) was large and only slightly smaller than the standard deviation for the students (59.5). This difference was not significant [$F(140,79) = 1.30$].

For the 71 items, the average inter-item correlation of .21 indicates a domain-sampling reliability of .95 and α was .95. For the 65 selected items, the reliabilities improved only in the third decimal place.

Study 4: Dimensionality

Factor analysis of the original 40 items could be performed separately in Samples 1, 2, 4, and 5, although factoring the items in one combined sample was appealing. The single combined sample would have the advantage of large size; on the other hand, systematic differences existed between the samples. The feminists had much higher average scores than the volunteers and students. These extreme scores would have surely increased the inter-item correlations somewhat spuriously, which would have reduced the number of factors. It was, therefore, more defensible to keep each sample intact and to compare the results over samples. Different factors or different numbers of factors could then be found in the different samples.

Method and Results

The correlations from Samples 1 and 3 were tentatively factored by the principal factors method, using squared multiple correlations as communality estimates and iterating to stabilize the communalities. According to three criteria, at least six factors were indicated in each sample. These criteria were the Kaiser-Guttman rule of 1.0, the scree test of Cattell (1966), and at least a .30 correlation of every item with some factor. The correlations from the same samples were also factored by the maximum likelihood method of Jöreskog (1967). Six factors were required before the chi-square criterion of that program indicated acceptable fit. These results are shown in Table 3.

The correlations from all four samples and the total sample were analyzed by Tucker's (1971) maximum likelihood method, called the factor analysis of rescaled covariance matrices. This method provides three criteria that can be used to determine the number of factors in each sample; these are given in Table 4. The roots of the rescaled matrix can be interpreted as typical eigenroots, so that the number of factors is indicated by a large change in the difference be-

Table 3
Criteria for Number of Factors in 40-Item KISS

Sample	Factors							
	1	2	3	4	5	6	7	8
Eigenvalues for Principal Factoring								
1	5.63	2.77	1.65	1.39	1.30	1.19	.83	.72
3	4.49	1.93	1.61	1.40	1.27	1.19	.93	.89
Chi-Square for Maximum Likelihood Factoring								
1			773.3*	707.2*	645.8*	577.5	532.9	487.5
df			663	626	591	556	555	490
3			973.5*	710.8*	651.4*	596.0	-	-
df			663	626	590	555		

* Significant at $p \leq .05$

tween successive roots. In all four samples the difference between the sixth and seventh root was much larger than that between the seventh and eighth; the latter was comparable to later successive differences. Six factors were indicated in all samples. In the combined sample, four factors were indicated. This might be caused by the larger sample size, but it might also be a result of mean differences in the sample. The other two criteria, the mean discarded root and the discrepancy of fit, should stabilize after a sufficient number of factors have been extracted. Although this might be interpreted to mean that only one factor is sufficient in the combined sample, in the individual samples three, four, five, or six factors seem to be more defensible decisions. Successive differences in Samples 1, 3, and 4 were similar.

The six-factor solution for each sample was chosen for further analysis. Extraneous factors should simply fail to replicate, but a small reliable factor should be found in all samples. None of the six-factor solutions could be transformed successfully either orthogonally by Varimax or obliquely by Binormamin. The transformed solution did not group items together that seemed to have any particular similarity.

Six factor solutions from each sample were matched pairwise by unrestricted Procrustes

(Mosier, 1939), which maximizes the congruence coefficient between factors (Korth & Tucker, 1976). Table 5 presents these congruence coefficients. By interpolation of the tables of Korth and Tucker (1975), the critical value for each of these six factors may be estimated to be the same value, .77, since the Procrustes is not restricted ($\alpha = .05$). The first factor was reliably replicated in every sample, but none of the other factors were so replicated.

The 65 items of the revised form of the KISS were also factored in Samples 4 and 5 to determine whether or not a single factor could be replicated for the new items, as well as the original ones. Furthermore, some of the new items were specifically selected to represent superficial agreement with feminists. Eleven of the new items were selected from Smith, Ferree, and Miller (1975) as those which most highly correlated with the single factor found in that study. All eleven are successful items and were retained in the revised form. These items are very transparent; they had a mean rating of 7.9 in the present feminist Sample 5. Additional factors could be expected with the additional items (particularly the transparent items).

In order to factor all 65 items of the revised form in such small samples, items were parcelled—pairs or triplets of items were summed

Table 4
Criteria for Number of Factors in
Rescaled Covariance Matrix of 40-Item KISS

Sample	Factors								Trace of <i>P</i>
	1	2	3	4	5	6	7	8	
Roots of rescaled matrix (<i>P</i>)									
1	14.00	7.02	5.23	4.66	4.23	3.87	3.03	2.86	82.08
3	12.51	5.53	4.57	4.01	3.81	3.57	3.13	2.98	75.67
4	16.41	7.64	5.99	5.31	4.88	4.67	4.03	3.74	91.57
5	9.68	3.86	3.39	3.02	2.70	2.43	2.26	2.23	60.95
Total	10.68	3.09	2.33	2.12	1.76	1.67	1.56	1.52	52.39
Mean discarded root after extraction									
1	2.22	1.89	1.74	1.64	1.55	1.47	1.39	1.33	1.28
3	2.05	1.75	1.65	1.56	1.49	1.41	1.34	1.29	1.23
4	2.47	2.09	1.93	1.81	1.70	1.60	1.51	1.42	1.34
5	1.65	1.42	1.35	1.29	1.24	1.20	1.16	1.12	1.08
Total	1.42	1.16	1.10	1.07	1.04	1.01	.99	.97	.95
Discrepancy of fit after extraction									
1	.77	.464	.391	.355	.324	.295	.268	.258	.248
3	.727	.441	.395	.365	.343	.320	.298	.281	.265
4	.763	.475	.417	.383	.356	.330	.301	.280	.259
5	.694	.384	.348	.319	.297	.281	.269	.260	.248
Total	.756	.252	.206	.185	.167	.160	.154	.149	.144

—to reduce the total number of variables and to produce a more stable result (Cattell, 1956). The 65×65 matrix of correlations was examined and 30 parcels chosen to maximize the sum of within-parcel correlations. Smith et al.'s (1975) items, however, were treated as a subset and parcels were composed only of items within that subset. Since the search task was manual, absolute maximization was, in all probability, not attained. The average of the 40 within-parcel correlations was .36. With only 30 variables, factor analysis was performed in each of the two samples separately, as well as in the combined sample.

Factor analysis for three factors in each of the two samples were performed; the results were matched by Procrustes. The congruence coefficients between matched factors were calculated. The critical value estimated from the Korth and

Tucker (1975) tables was .68 for all three matches. Since the congruence coefficient was .965, the match of the first factors was significant. Matches of the second and third factors, yielding congruence coefficients of .312 and .374, were insignificant.

The results for the combination of Samples 4 and 5 also supported the one-factor interpretation. The three-factor solution is given in Table 6 (factor-parcel regression weights or correlations). Parcels 10 and 18 were the only ones that had correlations larger than .35 with the second and third factors. The mean correlation of parcels was .05 with factor two and .01 with factor three. With the given sample size they might easily be considered random. The parcels composed of the items from Smith et al. (1975) were 26 to 30, which had very high correlations with the single factor.

Table 5
Congruence Coefficients Between Factors
Matched by Unrestricted Procrustes

Sample	Sample			Sample	Sample		
	1	2	3		1	2	3
	Factor 1				Factor 2		
3	.94			3	.78		
4	.86	.83		4	.42	.52	
5	.89	.89	.93	5	.52	.35	.67
	Factor 3				Factor 4		
3	.39			3	.35		
4	.39	.29		4	.42	.46	
5	.40	.34	.21	5	.37	.28	.60
	Factor 5				Factor 6		
3	.21			3	.37		
4	.36	.42		4	.39	.55	
5	.29	.43	.31	5	.28	.28	.48

Conclusions

Even though the current feminist movement has a short history, the attitude toward equality of the sexes seems to be rather well-developed and easily tapped. Scores on the KISS reflect more than mere "lip service" to feminism. The similar and dissimilar alternatives in the forced-choice format produced results that appear identical. The variance of active feminist's scores was not restricted by a ceiling effect. Furthermore, the transparent items of Smith et al. (1975) did not appear in a separate factor. Instead, they loaded on the only factor appearing consistently in all four samples.

As would be expected, KISS scores for females were higher than those for males; and feminists attending an IWY conference had much higher scores than students or male volunteers. Whites and non-singles had higher scores than non-whites or singles. Liberals also had higher scores.

The factor analytic results supported other findings of a single factor of sexism. Although there are separable issues and points of conten-

tion, the general overall agreement or disagreement with feminists appeared to overwhelm these other issues.

Since several criteria indicated more than one factor, the question arises: what are these other factors? Although they are apparently legitimate factors within a single sample, they could not be found in other samples. The consistency in each sample seems to be specific to the sample. It may pertain to time or conditions of testing or the instability of item correlations in small samples. Since these factors failed to replicate, however, they may be ignored.

The 65-item revised KISS appears to be saturated with only one factor which, at least, may be considered a factor of avowed feminism. Feminists scored almost two standard deviations higher than college students. The variance did not appear to be restricted, even for the feminists' scores, so that the KISS is suitable for a wide range of subjects. The internal consistency reliability of the 65-item KISS was .95. Where time constraints exist, a much shorter version could be used; an instrument half as long would still have a reliability of .90.

Table 6
Factor Pattern for 30 Parcels of 65-Item KISS

Item	Factors			Item	Factors		
	I	II	III		I	II	III
1	.55	.31	.14	16	.55	.14	.12
2	.63	-.12	-.28	17	.63	-.18	.14
3	.62	.32	-.01	18	.57	.40	-.12
4	.34	-.03	-.09	19	.48	.05	-.13
5	.60	.02	.07	20	.61	-.18	.17
6	.50	.09	.02	21	.68	-.12	-.11
7	.71	.09	.24	22	.73	.01	.00
8	.62	.12	-.12	23	.84	-.12	-.05
9	.56	.29	.11	24	.79	-.10	-.16
10	.53	.19	.49	25	.79	-.24	.02
11	.60	.00	-.05	26	.67	-.02	-.20
12	.38	-.17	.13	27	.65	.16	-.05
13	.61	.16	.09	28	.64	-.01	.00
14	.48	.23	-.03	29	.69	-.11	.25
15	.50	.30	-.32	30	.88	-.12	-.06

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