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ABSTRACT

Two forms of the Situational Attitude Scale Women-4 (SASW-4), a 49-item inventory designed to measure attitudes toward sex roles, were administered to college students to investigate the psychometric properties of the instrument. Both forms of the SASW-4 presented seven personal and social situations, but differed in the sex of the individuals described in the items. Responses were made on five-point semantic differential scales and test items are appended. Spence and Helmreich's Attitudes Toward Women Scale (AWS), a 55-item inventory concerning women's social, educational, and vocational roles, was also administered. Concurrent validity was established from the correlation of SASW-4 and AWS scores. Two way analyses of variance (form by sex) were performed on SASW-4 total score and individual item responses. Forty-one of the 49 items on the SASW-4 yielded significant differences between forms, and 28 yielded significant interaction effects. Men scored significantly higher on the form in which individuals behaved in traditional ways, while women scored more positively in situations in which individuals exhibited non-traditional behaviors. When subjects were combined, the response to the traditional behavior forms of the SASW-4 was significantly more positive than to the non-traditional form. Potential uses for the instrument are briefly discussed. (Author/JAC)

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# MEASURING SEXIST ATTITUDES IN A SITUATIONAL CONTEXT

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Research Report # 16-77

## Summary

This study investigated the psychometric properties of the Situational Attitude Scale Women - 4 (SASW-4), a 49 item inventory meant to measure attitudes toward sex-role behavior. Two forms of the instrument, differing only in sex of the individuals engaging in certain behaviors, present seven personal and social situations each responded to on seven five-point semantic differential scales. Differences between mean responses on the two forms are interpreted as reflecting individual's attitudes that some behaviors are appropriate for one sex but not the other. Two way analyses of variance (form by sex) were performed on both total score and individual item responses.

Forty-one of the 49 items yielded statistically significant ($p < .05$) differences between forms, and 28 yielded significant interaction effects. The pattern of interaction was that males showed a greater increase (from "negative" toward "positive") between forms A and B than did females. Similar analysis on total score indicated that there was a statistically significant ($p < .05$) interaction effect between sex and form. On Form B males scored higher than females, while on Form A the opposite was true.

The Pearson Product-Moment Correlation between total score on the SASW-4 Form A, and the total score on the Attitudes Toward Women Scale was $\underline{r} = .57$. Test-retest reliability over a one week interval was .88 for Form A, and .67 for Form B. Coefficient alpha value was .91 for Form A and .85 for Form B.

Results of the principal component factor analysis yielded factors which correspond to six of the seven situations.

# INTRODUCTION

Attitudes toward appropriate sex role behaviors are closely related to an individual's choice of his/her own behaviors (O'Leary, 1976). The measurement of such atttitudes, therefore, needs no justification. Difficulties exist, however, in the measurement of this controversial attitude area. One difficulty inherent in the process is the social desirability factor which may encourage an individual to deny, even to him/herself, the possession of negative attitudes toward men and women engaging in non-traditional behaviors. A second complicating factor is the social change which we are witnessing regarding woman's role and man's role. Things are different this year from last year, and attitude instruments run the risk of becoming dated. In addition, in some quarters of our society it is fashionable, at least verbally, to reinforce the social changes, while in other quarters it is just as fashionable to resist them. A third problem is the question of validity of attitude instruments. The most common form of validity is that of concurrent validation against an instrument presumed to measure the same construct. This presents the problem of "an infinite regress with no ultimate standard of validity" (Sedlacek and Brooks, 1970, p. 1).

The most common format for an attitude measurement is a Likert-type, where the respondent is asked to indicate a strength of agreement or disagreement, or otherwise respond in a cognitive manner, to statements concerning his/her feelings. Responding to such a format makes it fairly easy for an individual to respond purposely inaccurately or to rationalize away his/her true feelings and respond in the socially desirable way. Hence, "true" attitudes may go untapped.

In their discussion of similar problems encountered in measuring whites' attitudes toward blacks, Sedlacek and Brooks (1970) present a compelling

argument for measuring these attitudes in a situational context in order to minimize the respondents' tendency to "run for psychological cover" when faced with an emotionally-bound issue such as racial differences. They developed a situational measure meant to be used as a measure of whites' attitudes toward blacks.

The purpose of this study is an evaluation of the psychometric properties of an instrument, The Situational Attitude Scale - Women -4 (SASW-4), developed to be a situationally-based measure of attitudes toward sex-role behavior. It is an instrument meant to reduce the effect of social desirability in the measurement of these attitudes, to have contemporary relevance in the face of rapid social change, and to provide evidence for its own validity.

## PROCEDURE

### Situational Attitude Scale - Women -4

The Situational Attitude Scale -Women -4 (SASW-4) is a 49-item inventory meant to be useful in measuring attitudes toward sex-role behavior. The SASW-4 has two forms, A and B, each presenting seven personal and social situations (see table 1); each situation is responded to on seven five-point semantic differential scales. Respondents are instructed to read the situation and to select, for each descriptive scale, the rating which best describes his/her feelings toward the situation. The positive pole for each item is varied randomly from right to left to avoid response set (directionality of scales was determined from the item intercorrelation matrix).

Forms A and B are identical except that in Form A the situations present individuals engaging in behaviors not traditionally thought to be appropriate for their sex. For example, Situation I on Form A is: "Jane has decided to accept a fantastic job offer in another part of the country. To accompany her, her husband must give up a job in which he is quite content." In Form B the

situation presented has John taking the new job and his wife giving up her position to follow him. Form B, then, presents the situation as it is more traditionally experienced in our society.

The purpose of the two forms is to provide evidence of validity. When the SASW-4 is used as a group measure, any demonstrated statistically significant differences on item responses or total score between the two forms is evident that there are differing attitudes toward women and men engaging in the same behaviors. This contributes to face validity. Closely related is construct validity. Any significant differences must be due to the sex difference within each situation and we can imply that what are being reflected are respondents' attitudes toward non-traditional role behaviors.

Attitudes Toward Women Scale

The second instrument employed in this study was the Attitudes Toward Women Scale (AWS) developed by Spence and Helmreich (1972). The AWS is a 55-item inventory dealing with women's social, educational and vocational roles. Subjects respond to items on a four-point Likert type scale (from strongly agree to strongly disagree); the result is a total score with a potential range of 0-165, meant to be a reflection of an individual's position on the liberal-conservative continuum with respect to attitudes toward sex role behavior.

Subjects

Three groups of subjects were used.

Group I was a sample of 495 incoming freshmen (249 males and 246 females) who were administered the SASW-4, forms A and B randomly distributed, during a two-day summer orientation program at a large Eastern public university. Subjects were not aware that two different forms of the instrument were being administered. The data from this group were used for a factor analysis and

and item analysis on the instrument.

Since it was both impossible and inadvisable to retest these students after a 1-2 week interval, data were gathered from two other groups for the remaining analyses. Group II was a sample of 37 male and 32 female students enrolled in a self-management course offered by the Department of Education at the same university during the Spring, 1977 semester. Each student was administered both the SASW-4, Form A and the AWS (with the two instruments distributed in random order). One week later they were given a second administration of the SASW-4. Data from this group were used for computing test-retest reliability estimates for the SASW-4, and for correlating scores on this instrument with scores on the AWS.

Group III was a sample of 34 male and 18 female students enrolled in an introductory level mathematics course at a 2-year public college during the Spring, 1977 semester. They were given Form B of the SASW-4 twice, at a one week interval. Data were used for computation of test-retest reliability coefficients for Form B.

Data Analysis

Reliability. One week test-retest reliabilities (Pearson correlations between first and second administrations) were computed for individual items and for total score on both forms of the SASW-4; in addition, an internal consistency formula (coefficient alpha) was employed to give an estimate of reliability for each form.

Validity. The validity of the SASW-4 was determined by looking at both item and total score mean response differences between forms A and B. Since subjects were assigned randomly to forms, any significant differences could be attributed to the differences of sex of the individuals within the situations.

Evidence for concurrent validity came from the correlation of scores on the SASW-4 (Form A ) and scores on the AWS.

Factor Analysis. A factor analysis was done on Form A, employing a principal components method rotated to a varimax solution; separate analyses were done for males and females. The analyses employed test-retest reliabilities as the diagonal elements of the intercorrelation matrices. Factors extracted in each case were those with eigenvalues greater than one. Only rotated factors were interpreted.

## Results

### Item Statistics

Item Analysis. Means for the items on the SASW-4, on a range of 0-4, were from 1.15 (s.d. =1.15) to 3.71 (s.d.=.58) for Form A, and from 1.05 (s.d. = .95) to 3.36 (s.d.=.86) for Form B. Mean item response overall was 2.11 for Form A and 2.30 for Form B. On Form A, all but four items had standard deviations greater than 1, while this was true for all but six items on Form B. Median Person correlation of items with total score was .46 for Form A and .38 for Form B. As might be expected, correlations of items with situation scores were uniformly higher on both forms than were correlations of items with total score.

Reliability . One week test-retest reliabilities for the items (Pearson correlations between administrations) had a median value of .55 for Form A and .42 for Form B. All correlations on Form A items were significantly different from 0, and 35 of the 49 items on Form B were similarly statistically significant. It should be noted that since Form B had a lower variability than Form A, it is expected that the test-retest reliabilities of this form would be lower.

Validity. Evidence for the validity of the SASW-4 comes from the examina-

tion of item mean response difference between the two forms. Data were analyzed by use of a two-way analysis of variance (form x sex) at the .05 level of statistical significance.

All but eight of the items yielded a significant difference between forms. Among these eight items, six showed a significant interaction effect: females taking Form A had a higher mean than females responding to Form B; males responding to Form A had a lower mean than males responding to Form B.

Total Score Statistics

Means, standard deviations, and ranges for Group I on Forms A and B of the SASW-4 total score are given in table 2. Also included are the same statistics for the first administration of Form A to Group II, and the first administration of Form B to Group III. Since Form B presents individuals engaged in more traditional role behaviors, it was expected that scores of subjects (at least males) responding to this form would be higher (reflect a more positive attitude) than those of subjects taking Form A. As can be seen from table 2, Form B does have a higher mean for males, and also a higher combined (males and females) mean, than does Form A. For women, however, those taking Form B had lower means than those taking Form A.

Reliability. The KR-20 reliability estimates were .91 and .85 for Forms A and B, respectively. The test-retest coreelation for A was .88 (based on 67 subjects) and .67 for B (based on 34 subjects).

Validity. A two-way analysis of variance (sex x form) on total score of the SASW-4 yielded a statistically significant difference between mean responses on the two forms. Subjects' mean scores for Form A were lower than those mean scores of subjects taking Form B (see table 2). There was also a significant interaction. On Form A, females scored higher than males, while on B, males scored higher than females. Women tended to respond in

a less traditional manner than did men on the SASW-4.

Taking situations as subscales, the same interaction pattern prevailed on all of the subscales exception Situation VI. Females exhibited a higher mean on A than did males, and a lower mean on B than did males. Results for Group I for these situations (subscales) are given in table 3.

Evidence for concurrent validity of the SASW-4 was gained from the correlation of scores on the SASW-4, Form A, and the AWS. The value of this correlation was .57 for the total sample (N=67), with the values for females being .60 (N=32) and that for males being .48 (N=35).

Factor Analysis. The principal components factor analysis was done separately for males (N=249) and for females (N=246) in Group I. Items with loadings of .40 or greater were examined to see if they made psychological sense.

For both group analyses, the solutions yielded nine factors with eigenvalues greater than 1. For the males, the median item communality was .50. The nine factors together accounted for 89.5% of the common variance of the system. Forty-five of the 49 items loaded at .40 or better on at least one factor. Factors corresponded to five of the seven situations (I, II, III, V, and VII), while the remaining four factors were not easily interpretable. Interpreted factors accounted for 66.3% of the common variance.

For the females, the median item communality was .49. The nine factors accounted for 91.7% of the common variance of the system. Forty-six of the 49 items loaded at .40 or better on at least one factor. Factors corresponded to five of the seven situations (I, II, III, V, VI), while the remaining four factors were not easily interpretable.

Evidence is that the situations in Form A in some sense stand alone. Additional evidence for that comes from the intercorrelation matrix of

subscale scores (table 4). It can be seen from this matrix that the subscales correlate more highly with total score than with each other.

## Discussion

The reliability of the SASW-4, as estimated by the Kuder-Richardson 20 formula, is considered satisfactory for both forms of the instrumement. The test-retest reliability, though possibly slightly inflated due to the rather short (seven day) test-retest interval, is also considered satisfactory for an attitude measure. The lower reliability of Form B of the SASW-4 may have been due partly to be fact that Form B had lower variability than Form A.

A comment is necessary about the implicit acceptance of less psychometric rigor of Form B. As stated earlier, the existence of the two forms of this instrument is meant to give evidence for the validity of the SASW-4; in addition, it is meant to be used within an educational setting to be persuasive evidence to respondents that they do exhibit differing attitudes toward women and men doing the same things.. At present that is seen as the utility of Form B. Form A by itself can be used as a diagnostic instrument. Once norms have been established, a score on this form (total score or situation scores) can be used as an indication of a person's attitudes toward individuals engaging in non-traditional roles. Here is where reliability becomes more of a concern, and a test-retest reliability of .88 is seen as satisfactory in such a situation.

The SASW-4 does, indeed, provide evidence for its own validity. The significant differences between forms on all but eight of the 49 items (and a significant interaction on six of these eight) indicate that indiviiduals respond differently to men and women exhibiting similar behaviors, and that the sex of the individual in the situation is the relevant variable. It

should be noted that when doing such a large number of statistical tests the probability of a type II error is quite large. According to Sakoda, Cohen and Beall (1954), when doing 49 statistical tests, each at the .05 level of significance, the probability of finding at least 41 significant by chance is less than .001.

The total score format of the SASW-4 is one which makes sense: men scored significantly higher scores (responded more positively) to the form in which individuals behave in traditional ways (Form B); women score more positively in situations in which individuals exhibit non-traditional behaviors (Form A). The overall effect, when subjects were combined, was one of the traditional form being responded to significantly more positively than the non-traditional form. The pattern was not the same, however, for the individual situations (see table 3 for sub-scale scores). A possibility is that important differences are being masked by using total scores, and it would be more informative to look at score profiles. More evidence for the importance of the individual situations comes from the factor analysis. It seems that these situations do, in some sense, stand alone.

One of the problems with the AWS has been that it suffers from a ceiling effect (Collins, 1973). The SASW-4 (Form A) does not seem to suffer from this effect. This result may have been due to the differences in format between the two instruments. The AWS elicits a much more congnitive response than does the situational format of the SASW-4. It may be, therefore, that the SASW-4 is a more accurate reflection of underlying attitudes. Another possibility, of course, is the possible conservatism of the individuals used as subjects in this study.

The relationship between the AWS and the SASW-4, Form A, is statistically significant (Pearson correlation of .57), though it also indicates that the

two scales are not interchangable. It is clear from inspection of item content that the SASW-4 does not tap all of the areas of women's role behavior that the AWS does (one example being women's social and sexual behavior). The situations of the SASW-4 are more specifically relevant to vocational-educational opportunities and the role conventions surrounding them. They can be seen as situations which require an individual to participate in the world of professionalism or exhibit competence in areas often thought to be reserved for members of the opposite sex. (It should be noted that this narrowness of content also makes the instrument less appropriate for some groups of individuals).

A caveat concerning the subjects used in this study: as many subject samples in social science research, they were overwhelmingly white and middle-class. Certainly, attitudes toward sex roles are related to one's social class, religious training, ethnic background and other demographic variables. Any conclusions about attitudes of men-in-general or women-in-general can not be made. Further research is certainly necessary.

What is apparent from this research is that the SASW-4 is a relatively easily administered instrument which is useful as a measure of attitudes, especially in an educational setting where implications of the differences between forms can be used in discussion of need for change in attitudes. The psychometric characteristics indicate satisfactory reliabilities and give evidence for validity. Among the many questions raised by the study is: Can this instrument be useful in a more general sense as a reflection of "conservative or liberal" attitudes? This question can be answered only by further research. The situational format, however, seems a promising one.

Table 1.

Situations and Adjective Scales of the SASW-4, Form B*

I. Jane has decided to accept a fantastic job offer in another part of the country. To accompany her, her husband must give up a job in which he is quite content.

| | |
|---|---|
| 1. wrong | right |
| 2. selfish | unselfish |
| 3. reasonable | unreasonable |
| 4. stupid | intelligent |
| 5. threatened | not threatened |
| 6. pleased | displeased |
| 7. at ease | ill at ease |

II. John decides he does not enjoy his job. Since his wife makes a good salary, he decides to stay home and take care of the house.

| | |
|---|---|
| 8. masculine | feminine |
| 9. silly | reasonable |
| 10. satisfied | dissatisfied |
| 11. unacceptable | acceptable |
| 12. likely | unlikely |
| 13. appropriate | inappropriate |
| 14. unnatural | natural |

III. John and Jane Smith believe that they should have a child only if one of them is able to be home with it for several years. John is willing to give up his job and take over the child care, while Jane is unwilling to do so.

| | |
|---|---|
| 15. natural | unnatural |
| 16. rational | irrational |
| 17. wrong | right |
| 18. healthy | unhealthy |
| 19. happy | sad |
| 20. unacceptable | acceptable |
| 21. trusting | suspicious |

IV. Jane has just been named forewoman in the factory where she works; she will be supervising 35 persons, mostly men.

| | |
|---|---|
| 22. competent | incompetent |
| 23. expected | unexpected |
| 24. easy | difficult |
| 25. unnatural | natural |
| 26. dependent | independent |
| 27. trusting | suspicious |
| 28. acceptable | unacceptable |

Table 1 - continued.

Situations and Adjective Scales of the SASW-4, Form A*

V. John and Jane have a combined income of $40,000. John's share is $10,000, while Jane earns $30,000.

| | | |
|---|---|---|
| 29. | probable | improbable |
| 30. | improper | proper |
| 31. | necessary | unnecessary |
| 32. | deserving | undeserving |
| 33. | threatened | not threatened |
| 34. | fair | unfair |
| 35. | foolish | not foolish |

VI. John can never balance his checkbook. At the end of every month Jane must straighten it out for him.

| | | |
|---|---|---|
| 36. | necessary | unnecessary |
| 37. | appropriate | inappropriate |
| 38. | displeased | pleased |
| 39. | uncomfortable | comfortable |
| 40. | skeptical | assured |
| 41. | possible | impossible |
| 42. | threatened | not threatened |

VII. Jane has just hired John as her new secretary.

| | | |
|---|---|---|
| 43. | natural | unnatural |
| 44. | inferior | superior |
| 45. | funny | serious |
| 46. | likely | unlikely |
| 47. | angry | content |
| 48. | uncomfortable | comfortable |
| 49. | strong | weak |

* Form A identical except that sex of individuals is interchanged (see text).

Table 3.

Means and Standard Deviations of SASW-4 Subscale (Situation) Scores[a]

| Scale | | Form A Males (N=128) | Form A Females (N=126) | Form A Combined | Form B Males (N=121) | Form B Females (N=120) | Form B Combined |
|---|---|---|---|---|---|---|---|
| 1 | Mean | 12.20 | 13.10 | 12.65 | 15.90 | 14.61 | 15.21 |
| | S.D. | 4.52 | 4.50 | 4.53 | 5.08 | 5.69 | 5.46 |
| 2 | Mean | 12.65 | 14.46 | 13.55 | 18.13 | 17.06 | 17.60 |
| | S.D. | 6.36 | 6.60 | 6.53 | 4.91 | 6.09 | 5.54 |
| 3 | Mean | 12.47 | 15.10 | 13.77 | 19.45 | 17.37 | 18.35 |
| | S.D. | 6.41 | 6.55 | 6.60 | 5.44 | 6.53 | 6.16 |
| 4 | Mean | 15.08 | 18.72 | 16.88 | 16.37 | 15.58 | 15.98 |
| | S.D. | 4.83 | 4.18 | 4.87 | 3.90 | 4.22 | 4.06 |
| 5. | Mean | 16.09 | 17.73 | 16.90 | 17.84 | 15.12 | 16.48 |
| | S.D. | 5.28 | 5.21 | 5.30 | 4.75 | 4.96 | 5.02 |
| 6. | Mean | 16.32 | 17.47 | 16.89 | 14.10 | 12.16 | 13.10 |
| | S.D. | 6.11 | 6.84 | 6.49 | 6.37 | 6.08 | 6.29 |
| 7. | Mean | 11.67 | 14.17 | 12.91 | 16.15 | 15.62 | 15.88 |
| | S.D. | 5.61 | 5.74 | 5.80 | 5.43 | 5.06 | 5.24 |

[a] Group I

Table 2.

Means, Standard Deviations and Ranges of Forms A and B of the Situational Attitude Scale Women - 4 (SASW-4)

| | | Form A | | | Form B | | |
|---|---|---|---|---|---|---|---|
| | | Males (N=128) | Females (N=126) | Combined | Males (N=121) | Females (N=120) | Combined |
| Group I | Mean | 96.48 | 110.75 | 103.56 | 117.94 | 107.52 | 112.60 |
| | S.D. | 25.18 | 25.37 | 26.22 | 19.03 | 19.78 | 20.17 |
| | Range | 47-154 | 25-164 | 25-164 | 75-170 | 68-149 | 68-170 |
| | | Males (N=36) | Females (N=31) | Combined | Males | Females (N=18) | Combined |
| Group i | Mean | 99.28 | 112.22 | 105.27 | 119.65 | 115.22 | 118.12 |
| | S.D. | 28.54 | 26.75 | 28.28 | 24.01 | 21.72 | 23.33 |
| | Range | 45-162 | 62-171 | 45-171 | 63-163 | 71-166 | 63-166 |

Group III

Table 4.

Intercorrelation Matrices for Scale Scores on SASW-4 Forms A and B for Group I[a]

Form A

| Scale | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total Score |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.00 | .13 | .13 | .12 | .12 | .14 | .18 | .36 |
| 2 | | 1.00 | .37 | .39 | .44 | .31 | .46 | .70 |
| 3 | | | 1.00 | .26 | .32 | .40 | .33 | .65 |
| 4 | | | | 1.00 | .48 | .37 | .50 | .66 |
| 5 | | | | | 1.00 | .36 | .48 | .70 |
| 6 | | | | | | 1.00 | .42 | .69 |
| 7 | | | | | | | 1.00 | .74 |
| Total Score | | | | | | | | 1.00 |

Form B

| Scale | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total Score |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.00 | .03 | .27 | .10 | .31 | .16 | .06 | .52 |
| 2 | | 1.00 | .09 | .08 | .01 | .14 | .21 | .42 |
| 3 | | | 1.00 | .22 | .33 | .20 | .16 | .64 |
| 4 | | | | 1.00 | .16 | .10 | .17 | .43 |
| 5 | | | | | 1.00 | .19 | .24 | .59 |
| 6 | | | | | | 1.00 | .16 | .56 |
| 7 | | | | | | | 1.00 | .53 |
| Total Score | | | | | | | | 1.00 |

[a]based on N=254 cases (A) and N = 241 cases (B)

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