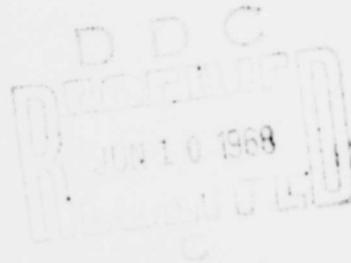


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STABILITY OF EDWARDS PERSONAL PREFERENCE SCHEDULE NEED  
SCALE SCORES AND PROFILES OVER A SEVEN-WEEK INTERVAL

Lawrence K. Waters



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Lawrence K. Waters\*

Bureau of Medicine and Surgery  
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Approved by

Ashton Graybiel, M. D.  
Director of Research

Released by

Captain J. W. Weaver, MC, USN  
Commanding Officer

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\*Now at Ohio University, Athens, Ohio

NAVAL AEROSPACE MEDICAL INSTITUTE  
NAVAL AEROSPACE MEDICAL CENTER  
PENSACOLA, FLORIDA 32512

## SUMMARY PAGE

### THE PROBLEM

The stability of Edwards Personal Preference Schedule (EPPS) need scale scores and profiles has been reported in the literature for a variety of samples and in a variety of contexts. The generalizability of these data to all male students undergoing pre-flight training appeared questionable. The purpose of this study was to obtain EPPS stability data explicitly for a sample of pre-flight students.

### FINDINGS

Test-retest correlations for the need scale scores were in the .50's and .60's (2 of 15 were below .50). Mean scores on seven of the need scales changed significantly over a seven-week interval. Of the 74 individual profile test-retest coefficients, 64 were significant. The median value was .75.

### RECOMMENDATIONS

The need scales and profiles were sufficiently stable for use of the EPPS as a research instrument in the evaluation of the personal characteristics of pre-flight students.

## INTRODUCTION

The Edwards Personal Preference Schedule (EPPS) is a self-descriptive forced-choice instrument measuring fifteen psychological needs. The stability of the individual need scale scores and need profile over various time intervals has been reported. Test-retest reliability coefficients for the fifteen need scores on the EPPS have been reported for intervals of one week (3, 4), three weeks (5), and fifteen months (2). Also, test-retest coefficients for the profile of needs has been obtained for a two-week (1) and a fifteen-month (2) interval. In general, reliabilities of .70 or greater were found for interest intervals of three weeks or less (4 of 45 coefficients were less than .70). Although there are some exceptions, the trend has been for successive decreases in reliabilities with longer interest intervals. These data were obtained on college students and student nurses, and their generalization to an all male flight student population is tenuous. The purpose of this study was to obtain test-retest stability coefficients for individual scales and for the profile of needs specifically for a flight student group, and to compare these results with those obtained for different time intervals and respondent groups.

## PROCEDURE

As a part of a more general study, data were available for obtaining test-retest coefficients for an interest interval of seven weeks, which is intermediate to those intervals reported elsewhere. The EPPS had been administered to 148 flight candidates during their indoctrination week and during the seventh week of pre-flight training. Pearson product-moment correlations were computed between corresponding needs and the consistency score for the two administrations. Also, for a random half of the sample, the correlation between the two need profiles was computed for each flight candidate.

## RESULTS AND DISCUSSION

Table I shows means, standard deviations, and test-retest coefficients for each of the need scales and the consistency score. The correlations are uniformly lower than those reported for shorter time intervals and are of similar magnitude to the fifteen-month coefficients of Caputo, Psathas, and Plapp (2). The fifteen-month coefficients and the coefficients obtained in the present study differ by as much as .10 on five scales (Aff and Chg lower; Int, Het, and Agg higher after the seven-week interval). The test-retest coefficients are probably more properly considered as stability coefficients, since they involve not only scale reliabilities but also the relative stability of the trait measured in the respondent group. The intensive training of pre-flight may produce more subject change during the interest interval than would most situations. In the present context, the need scales of the EPPS show only moderate stability over the seven-week interval.

Table I  
Stability Coefficients for Need Scales

Need	$r_{12}$	$\bar{X}_1$	$\bar{X}_2$	SD <sub>1</sub>	SD <sub>2</sub>
Ach	.53	17.57	18.36*	3.90	3.65
Def	.47	12.43	12.74	2.88	3.28
Ord	.57	12.22	12.72	4.35	4.14
Exh	.53	13.51	14.41*	3.44	3.36
Aut	.64	10.14	10.39	4.16	4.32
Aff	.37	12.78	12.05	3.82	4.25
Int	.67	15.97	15.49	4.58	5.09
Suc	.51	7.55	7.01	3.88	3.75
Dom	.56	18.08	18.97*	4.02	4.15
Aba	.67	12.63	11.74*	4.84	5.14
Nur	.61	10.85	10.06*	4.35	4.48
Chg	.58	17.75	16.72*	3.68	4.15
End	.62	17.41	17.18	4.97	5.18
Het	.62	17.99	18.48	5.07	6.07
Agg	.60	12.85	11.91*	4.11	4.24
Consist.	.37	11.80	11.83	1.72	2.23

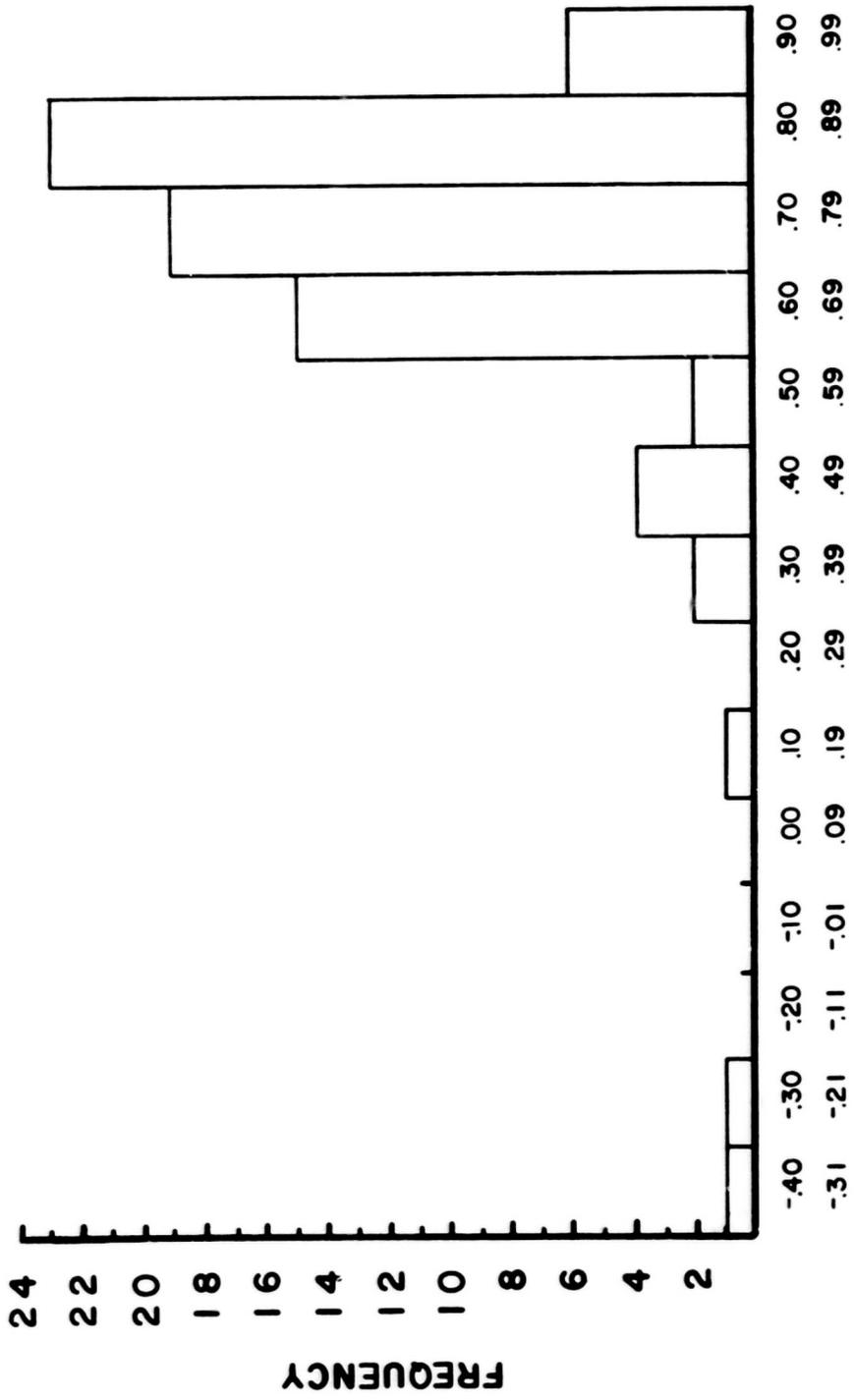
\*Difference between  $\bar{X}_1$  and  $\bar{X}_2$  significant,  $P < .05$ .

The test-retest correlation for the consistency score was especially low (.37). Edwards (3) reported a coefficient for the consistency score that was comparable to the need scales for a one-week interval. The other studies reviewed did not report coefficients for the consistency score. The means found for flight candidates were both similar to that reported by Edwards (3). The standard deviation for the seventh week administration was somewhat larger than that for the indoctrination week, but this provides no explanation for the low test-retest coefficient.

Mean scores on Ach, Exh, and Dom increased significantly ( $P < .05$ ), and Aba, Nur, Chg, and Agg means showed significant decreases over the seven-week interval. Twelve of sixteen standard deviations tended to be larger for the second testing.

The plots of the correlations between individual profiles over the seven-week interval are shown in Figure 1. The median coefficient was .75. Of the 74 coefficients, 64 were significantly ( $P < .05$ ) greater than zero. Six of the ten respondents who had nonsignificant profile stability coefficients had at least one consistency score of 9 or less (compared to 10 of 64 whose coefficients were significant). The stability coefficients for the need profiles over seven weeks tended to be slightly greater than those reported by Caputo, Psathas, and Plapp (2) over a fifteen-month interval. Also, slightly more of the coefficients in the present study were significant (64 of 74) than in the fifteen-month study (approximately 42 of 52).

In general, the stability of the EPPS appears sufficiently high for research purposes.



**CORRELATION BETWEEN PROFILES**

Figure 1

**Plot of Profile Correlations**

## REFERENCES

1. Borislow, B., The Edward Personal Preference Schedule (EPPS) and fakability. J. appl. Psychol., 42:22-27, 1958.
2. Caputo, D. V., Psathas, G., and Plapp, J. M., Test-retest reliability of the EPPS. Educ. Psychol. Meas., 26:883-886, 1966.
3. Edwards, A. L., Edwards Personal Preference Schedule: Manual. New York: Psychological Corporation, 1959.
4. Horst, P., and Wright, C. E., The comparative reliability of two techniques of personality appraisal. J. clin. Psychol., 15:388-391, 1959.
5. Mann, J. H., Self-ratings and the EPPS. J. appl. Psychol., 42:267-268, 1958.

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13. ABSTRACT <p>Seven-week test-retest correlations were obtained for need scale scores and individual need profiles for a sample of pre-flight students. The coefficients for need scales were in the 50's and 60's (2 of 15 were below .50). Mean scores on 7 of the need scales changed significantly over the seven-week intertest interval. Of the 74 individual profile correlations, 64 were significant; the median value was .75. There was some evidence that low profile stability was related to a low consistency score on one or both administrations. The test-retest data were compared with other reliability studies of the Personal Preference Schedule.</p>		

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