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ABSTRACT

A total of 130 male undergraduate college students were the subjects for this study to determine: (1) the extent to which the vocational relevance of test scales change as a function of counseling; (2) whether estimation changes differ pre- and post-treatment as a function of individual and group counseling; and (3) whether changes are differentially associated with modifications of the vocational relevance to test scales which occur as a result of counseling. The tests used included the Edwards Personal Preference Schedule (EPPS), the Kuder Preference Record (Kuder), the Strong Vocational Interest Blank (SVIB), and the Vocational Self Assessment Form (VSA). The results show that both individual and group vocational counseling which include a test orientation serve to stimulate variability in self estimations in areas of high and low vocational relevance. Change scores in the retest nomination-same scales initial comparison showed increased distortion of the area of high vocational relevance. (Author/KJ)

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## Vocational Relevance as a Factor in Counseling

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Recently, Foreman & James (1969) studied the accuracy of clients engaged in vocational counseling in estimating their measured scores when test scales were, and were not, classified by level of vocational relevance. They found that while variations were associated with each instrument, there also occurred a generalized tendency for both estimated and measured test scores to increase linearly with higher levels of vocational relevance. Further, mean differences between estimated and measured test scores tended to become greater in the direction of over estimation as level of vocational relevance increased.

In order to extend these findings, the present study was designed to compare changes in self estimations across test scales representing different levels of vocational relevance as a function of individual and group counseling. Specifically, the study attempts to determine: (a) the extent to which the vocational relevance of test scales change as a function of counseling, (b) whether estimation changes differ pre- and post- treatment as a function of individual and group counseling, and (c) whether changes are differentially associated with modifications of the vocational relevance of test scales which occur as a result of counseling.

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## Method

### Sample

120 male undergraduate college level students were included in the study. Each student was a voluntary client of the University Counseling Service, and had been accepted following an intake interview for vocational counseling. The Ss were divided equally into three groups, and assigned to individual counseling, group counseling (which was further subdivided into six small counseling groups), and to a no treatment wait control group.

### Instruments

Ss' measured scores were obtained from a basic test battery which included the Edwards Personal Preference Schedule (EPPS), Kuder Preference Record, Form C (Kuder), and the Strong Vocational Interest Blank (SVIB). The measured scores were transformed into percentiles and classified on a five point scale by percentiles: 10, 30, 70, and 90 respectively.

Ss' estimated scores were gained from the Vocational Self Assessment Form (VSA) which was a modification of Karr (1967). The VSA enabled Ss to both categorize the scales of the basic test battery into levels of high, intermediate, and low vocational relevance, and to estimate on five point rating scales their measured scores on the three instruments. Readers interested in a more extended description of the transformation of measured scores and the classification of test scales by levels of vocational relevance are referred to Foreman & James (1969).

## Procedure

Counselors working with Ss assigned to individual and group counseling were requested to use the basic test battery and rating scales as part of their standard procedure. The average number of interviews for Ss involved in individual counseling was 3.8, and for group counseling, 3.7. Four weeks following the termination of counseling, Ss were recalled to the Counseling Service for a follow-up interview and a second administration of the VSA. The no treatment control group members were assigned the basic test battery and VSA directly from the intake interview. Six weeks following their initial estimates, the control group was readministered the VSA as the first step in their being accepted for continued counseling.

## Data Collection

Change scores were calculated by determining two sets of difference scores; the difference between the pre- estimations and measured scores, and the difference between the post- estimations and measured scores. For difference scores, a positive sign was given if estimated scores exceeded measured scores for each S by levels of vocational relevance, and a negative sign if his measured scores were greater than his estimated scores. The change score between these difference scores was, in turn, assigned a positive sign when the post- difference was less than the pre- difference, and a negative sign when change was in the direction of greater distortion.

Because Ss, on the second administration of the VSA, had the opportunity to change both the vocational relevance of test

scales and their estimations, three comparisons were permitted. The comparisons were: (a) change scores between differences by levels of vocational relevance as initially nominated and the same scales on retest, (b) retest nominations of relevance and the same scales on the initial ratings, and (c) pre-post comparisons by levels of relevance nominated at each time.

Both the magnitude and direction of change scores were assessed. The relative variations of change scores by treatments and levels of relevance was determined by two-way analyses of variance disregarding signs. The direction of change was assessed by obtaining the standard error of the various pre-post mean differences, utilizing signs, for each treatment and level of vocational relevance separately.

### Results

Table 1 shows that while the initially nominated level of vocational relevance of test scales changed between 20 and 50 per cent during the course of counseling and the follow-up period, most of this change was a function of test-retest variability. The greatest percentage of change was consistently associated with test scales of low vocational relevance, and least change in areas of intermediate relevance. The patterns of change in vocational relevance between the three groups are similar, with slightly less variation associated with the controls.

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Insert Table 1 about here  
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Table 2 indicates that the magnitude of change scores varied significantly between the groups on (1) initial nominations - retest nominations and (2) retest nominations - same scales initial comparisons on the EPPS and SVIB, but not on the Kuder. No between group differences were noted in the initial nominations - same scales retest comparison on any test. With one exception, the variability of change scores differed between levels of vocational relevance on each test, and on all comparisons.

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Insert Table 2 about here  
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The Newman-Keuls method was used to compare mean change scores. In those instances where significant treatment effects were noted, the individual and group counseled Ss consistently demonstrated greater variability in their estimations than the control Ss on the EPPS and SVIB. The group counseled Ss showed the greatest variability in change scores, but in most instances did not significantly differ from Ss participating in individual counseling. In the two comparisons where an interaction effect occurred, the group counseled Ss had dramatic increases in the variability of low relevance change scores.

Greater differences in the magnitude of change scores were consistently associated with test scales of both high and low vocational relevance as compared to scales of intermediate relevance on each test. No significant differences in the variability of change scores between test scales of high and low vocational relevance were noted on the three comparisons.

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Insert Table 3 about here  
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When analyzed for direction, change scores in the initial nominations - retest nominations comparison showed no significant differences beyond that expected by chance. Change scores in the initial nominations - same scales retest comparison showed some degree of increased accuracy, but this increased accuracy was not consistently associated with either the treatment groups or levels of vocational relevance. In the retest nominations - same scales initial comparison, the change scores in the individual and group counseled treatments showed greater distortion on test scales of high relevance, especially on the interest measures. In all comparisons, when increased accuracy occurred, it tended to be on scales of low and intermediate vocational relevance on the SVIB, and to a lesser extent, on the EPPS.

#### Discussion

The results of this study indicates that both individual and group vocational counseling which includes a test orientation serves to stimulate variability in self estimations in areas of high and low vocational relevance. However, increased accuracy is moderately and inconsistently associated with test scales of low and intermediate vocational relevance.

The most interesting finding was that change scores in the retest nominations - same scales initial comparison showed increased distortion of the area of high vocational relevance.

Keeping in mind that initial distortions were greatest in areas of high vocational relevance (Foreman & James, 1969), it appears that clients simply modified the relevance of test scales, and distorted the newly nominated scales in the same manner as the initial scales of high relevance. Thus, it appears that the initial distortions of high vocational relevance have simply been modified as to type, but not degree. To the extent this parameter of evaluation is useful, these results indicate that clients received little or no benefit from these services.

#### References

- Foreman, M. E. & James, L. E. Vocational relevance and estimated and measured test scores, Journal of Counseling Psychology, 1969, 547-550.
- Karr, B. A proposed method for test interpretation. Unpublished doctoral dissertation, University of Cincinnati.

Table 1

## Number and Percentage of Change in Test Scales by Vocational Relevance

Variables	No. of Scales by Categories	Individual Counseling		Group Counseling		Control	
		n	%	n	%	n	%
EPPS							
High	120	50	42	50	42	38	32
Intermediate	360	100	28	104	29	89	25
Low	120	58	48	62	52	55	46
KUDER							
High	80	26	32	24	30	22	28
Intermediate	240	54	22	56	23	44	18
Low	80	32	40	36	45	24	30
SVIB							
High	80	29	36	27	34	16	20
Intermediate	200	56	28	65	32	47	24
Low	80	36	45	44	55	31	39

Table 2

Analysis of Variance: Difference in Variations of Initial and Subsequent Change Scores by Treatments and Vocational Relevance

Tests & Source	df	Initial - Subsequent		Initial - Post of Initial		Pre of Subsequent - Subsequent	
		MS	F	MS	F	MS	F
EPFS							
Treatment (A)	2	1.56	5.03**	.34	1.31	1.89	6.75**
Error a	117	.31		.26		.28	
Relevance (B)	2	2.72	13.60**	1.80	9.00**	1.98	10.42**
A x B	4	.70	3.50**	.21	1.05	.19	0.00
Error b	234	.20		.20		.19	
KUDER							
Treatment (A)	2	.03	.10	1.04	2.48	.04	.16
Error a	117	.29		.42		.25	
Relevance (B)	2	2.06	9.36**	1.98	7.33**	.78	4.10*
A x B	4	.26	1.18	.94	3.48**	.06	.32
Error b	234	.22		.27		.19	
SVIB							
Treatment (A)	2	.74	5.69**	.30	3.00	.58	3.41*
Error a	117	.13		.10		.17	
Relevance (B)	2	.78	9.75**	.18	3.00*	.07	.78
A x B	4	.04	.50	.04	.67	.12	1.33
Error b	234	.08		.06		.09	

\*p < .05  
\*\*p < .01

Table 3

Z Ratios of Variations of Initial and Subsequent Change Scores  
by Treatments and Vocational Relevance

Variables	Initial - Subsequent			Initial - Post of Initial			Pre of Subsequent - Subsequent		
	Ind. Couns.	Group Couns.	Control	Ind. Couns.	Group Couns.	Control	Ind. Couns.	Group Couns.	Control
EPSS	.25	.05	-.44	.72	1.76*	-.06	-.66	-.25	-2.35*
High	.95	1.68*	-.15	2.29*	2.70**	1.45	1.32	.07	.95
Intermediate	1.52	1.03	.78	.26	-.06	-1.33	1.61	.90	1.07
Low									
KUDER	.30	.31	.34	.56	.26	1.69*	-.93	-2.79**	0.00
High	.36	-1.13	-.49	.25	-.54	-.12	2.01*	.10	-.78
Intermediate	.77	.09	-1.30	.54	.06	-1.35	0.00	1.02	-1.08
Low									
SVIB	.24	-1.19	1.19	.96	.44	1.05	-1.66*	-2.06*	.28
High	.82	.45	.49	.62	.66	1.74*	1.69*	.29	.27
Intermediate	1.28	1.69*	.44	1.69*	-.06	-.57	2.52**	1.88*	.39
Low									

\*p < .05

\*\*p < .01