

Intra-Individual Variability in the MMPI-CPI Common Item Pool

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Typically, attempts to measure intra-individual variability on personality inventories have relied upon the administration and subsequent re-administration of an entire test (or series of tests). Raine & Hills (1959), using projective material (sentence completion stems), have proposed using equivalent items embedded within one testing as a way of eliminating some of the well-known fatigue and motivational constraints induced by a test-retest situation (Windle, 1954, 1955). At the present time, our knowledge of item characteristics may not permit an extension of the concept of 'directly equivalent items' to structured inventory measurement, but the fact that the Minnesota Multiphasic Personality Inventory (MMPI) and the California Psychological Inventory (CPI) share many items makes the concurrent administration of both instruments a form of test-retest for their common item pool.

This method of assessing intra-individual variability has such antecedents as Buechley & Ball's (1952) Tr-scale, composed of fourteen of the sixteen duplicated MMPI items, and the Consistency scale (Con) of the Edwards Personal Preference Schedule (EPPS), based upon fifteen duplicated EPPS items. Since the MMPI-CPI common item pool is of far greater size than typical item pools duplicated within one test, it should serve as a useful base against which to compare other and shorter indices of intra-individual variability.

The present investigation represents a preliminary attempt to (a) demonstrate the usefulness of the MMPI-CPI common item pool for measuring intra-individual variability, and (b) examine critically the two shorter duplicated item pools already provided in the MMPI and the CPI.

PROCEDURE

Subjects who had taken both an MMPI and a CPI were obtained from the Stanford University Counseling and Testing Center and from an undergraduate personality assessment course. The total sample included eighty-eight males and thirty-nine females. Since subjects were selected for this study solely because test data were available for them, they no doubt do not constitute a representative sample of the group from which they were obtained. The conditions under which the tests were taken and the interval between the first and second test varied widely; consequently, generalizations from this study should be extended with caution.

Five different change scales were developed for the MMPI and the CPI, as described below.

Identical items (I)

The number of items changed on re-test from the 167 items which are identical on the

MMPI and the CPI comprised the *Ss* score on this scale. The direction of change in this and subsequent scales was not considered.

Virtually identical items (V)

The number of items changed on re-test from the eleven virtually identical items on the two tests comprised the *Ss* score on this scale. Examples of virtually identical items include: 'I sometimes . . .' on one test, 'Sometimes I . . .' on the other; '. . . worthwhile . . .' on one test, '. . . worth while . . .' on the other.

Similar items (S)

The number of items changed on re-test out of the thirty-five MMPI-CPI items that are similar in content (though not identically phrased) comprised the *Ss* score on this scale. Differences in 'similar' MMPI and CPI items vary from the use of a different word to describe frequency or extent (e.g., 'sometimes' vs 'at times') to such an item difference as 'Some people exaggerate their troubles in order to get sympathy' vs 'I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others'. In all such items there are easily identifiable key phrases.

MMPI duplicated items (M)

The number of items changed on re-test out of the sixteen items appearing twice in the booklet form of the MMPI comprised a *Ss* score on this scale.

CPI duplicated items (C)

The number of items changed on re-test out of the twelve duplicated items in the CPI comprised a *Ss* score on this scale.

RESULTS

Properties of the five change scales

The mean, standard deviation, range of scores, and split-half reliability coefficients for each of the five change scales are presented in Table 1. Note that the average subject changed approximately 10-15 per cent of the identically worded items, approximately the same proportion of the virtually identical items, about 20 per cent of the similarly worded items, and about 5-8 per cent of the items duplicated within either test.

An indication of the generality of the various change scales can be obtained from the intercorrelations among the five measures, as shown in Table 2. None of these correlations is high, as one might expect in view of the low internal consistency of the scales. The correlations between the I-scale and the S-scale for both men and women are significant at the 0.01 level. As Table 2 indicates, the more items in a change scale, the more reliable is the measure. For men, the I-scale (167 items) has the highest average intercorrelation with other scales, closely followed by the S-scale (35 items). For women, both the I- and S-scales have similar patterns of correlation with other scales. For both men and women, the intercorrelations of these two scales with other scales are considerably higher than the intercorrelations among the other three scales (containing 11, 12, and 16 items).

Table 1. Means, standard deviations, range of scores and split-half reliability coefficients for five MMPI-CPI change scales

Scale	Number of items	Range of scores	Males (N = 88)			Females (N = 39)		
			M	S.D.	r_{tt}	M	S.D.	r_{tt}
I	167	3-54	24.6	9.8	0.61*	20.3	7.7	0.64*
V	11	0-6	1.2	1.1	—	1.0	0.9	—
S	35	1-12	6.9	2.4	-0.09	7.1	2.7	0.24
M	16	0-5	0.8	0.8	-0.08	0.9	1.1	0.28
C	12	0-4	1.0	0.9	-0.01	1.0	0.8	-0.12

* $p < 0.01$.

Nineteen *Ss* in the present sample had taken the EPPS. Correlations between the EPPS Consistency score (composed of fifteen duplicated items) and the various change scores ranged from 0.16 for the I-scale to -0.13 for the V-scale.

Table 2. *Intercorrelations among the five MMPI-CPI change scales*

	I	V	S	M	C
I		0.38†	0.49†	0.20	0.31†
V	0.38*		0.20	0.02	0.04
S	0.48†	0.35*		0.22*	0.18
M	0.02	0.03	0.00		0.04
C	0.15	-0.27	0.20	0.06	

Above diagonal: males (N=88). Below diagonal: females (N=39).

* $p < 0.05$; † $p < 0.01$.

DISCUSSION

This study suggests that intra-individual variability on personality inventories can be measured with modest reliability when the item pool is sufficiently large. It would appear that change scores based on small numbers of items (such as the sixteen MMPI duplicated items, the twelve CPI duplicated items, or the fifteen-item EPPS Consistency scale) are characterized by (a) low intra-individual variability (i.e., a small range of scores), (b) low internal consistency, and (c) low intercorrelations with other measures of intra-individual change. Of the change measures employed in this study only the 167-item I-scale appears to provide a reliable measure of item change. With uncorrected split-half correlations of 0.61 for men and 0.64 for women the reliability of this scale compares favourably with the reliability coefficients of MMPI clinical scales (e.g., Gilliland & Colgin, 1951, obtained *corrected* split-half correlations for MMPI scales ranging from -0.05 to 0.81; Mdn., 0.58). It is probably safe to assume that the greater reliability of the I-scale (as compared to others from the MMPI-CPI common item pool) is due to the larger number of items in the scale rather than to the small differences in the phrasing of items in some of the other scales.

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