TABLE I

EFFECT OF PRACTISE ON INTERCORRELATIONS OF FOUR MOTOR SPEED TESTS

	Koerth Rot.	Tel. Tap.	Br. Sp. Pkr.	Alt. Tap.
Koerth Rot.	*.91 (.95)	.25 .39 (+.14)	.32 .31 (−.01)	.08 .02 (−.10)
Tel. Tap.	−.03 (.92)	*.77 *.91 (.87) (+.08 .95)	.40 .14 (−.26)	.30 .07 (−.23)
Br. Sp. Pkr.		*.86 *.88 (.93) (+.01 .94)	.15 .04 (−.11)	
Alt. Tap.			*.81 *.84 (.90) (+.01 .91)	

Light figures = results of first day's practice. Heavy figures = results of last day's practice. Figures showing plus or minus variation as result of practice indicated by algebraic sign. * = reliability coefficients; Brown Spearman figures in parenthesis.

between single cycles, the *reliability* of the measures intercorrelated was estimated by the Brown-Spearman prophecy formula, as shown in parentheses below each of the obtained reliability coefficients.

As seen in Table I, intercorrelations between the four motor skills at the beginning of the practice period (light figures) verify the previous findings of low positive correlation between these separate skills, ranging from $r=+.08$ to $r=+.40$, approximating a value of $r=+.25$. After the practise period the correlations (in heavy figures) are somewhat lower than at the beginning of practise. They now range from $r=-.02$ to $r=+.39$, averaging $r=+.16$. Four of the six interrelationships now approximate zero, suggesting that the effect of intensive practice, if anything, is to make such motor skills not only more specific than they were at first, but practically independent variables. Reliability coefficients for both sets of intercorrelations are high, tending slightly higher after practice.

The correlation between the Koerth Pursuit Rotor and Brown Spool Packer (unlike tests) changed but very little (−.01), denying the importance of general factors of motor skill. The correlation between telegraph tapping speed and alternate tapping speed dropped from $+.30 \pm .09$ at the beginning of practice to $+.07 \pm .10$, denying even the existence of a group factor large enough to include only tapping performances.

It is therefore concluded that with instrumentally controlled testing and statistically reliable measures, the effect of practise on the intercorrelations of speed in fine motor skills is, if anything, to decrease their relationship, thus upholding previous findings as to the specific nature of the skills tested. Our results do not support the hypothesis of one or a few physiological limits, such as neuro-muscular arm speed, which might be thought of as determinants of success in numerous fine motor speed skills.

The results accord closely with studies by Walker and Adams[5] and S. Seashore[6] on knitting machinery, in both of which a battery of motor tests showed negligible predictive relationship to objectively measured complex practical skills. Such continued demonstrations of the specificity and non-predictability of individual differences in fine motor skills make it seem more profitable to direct further research toward the most effective methods of direct training in motor speed skills.

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[5] R. Walker and R. Adams, "Motor Skills: The Validity of Serial Motor Tests for Predicting Typewriting Efficiency," *Jour. of Gen. Psychol.*, July, 1934, 11, No. 1, pp. 173–186.

[6] S. Seashore, *Psychol. Bull.*, 27: p. 653, 1930.

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