CONCURRENT VALIDITY OF THE NON-LANGUAGE TEST OF VERBAL INTELLIGENCE[1]

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The purpose of this study was to determine the degree to which the Non-language Test of Verbal Intelligence, (NLTVI) which was developed with the idea that it would measure verbal ability through a non-language medium, could measure the verbal intelligence. It was correlated with the well-known standardized Verbal Reasoning Test of the Differential Aptitude Test Battery (VR-DAT). The magnitude of the correlation suggested the existence of some common as well as some uncommon factors between the two tests. When their predictive efficiencies with respect to academic achievement were compared the VR-DAT was proved to be better, though the one for the NLTVI was also significant.

THAT verbal tests are more useful measures of academic ability than are the non-verbal ones may be due to the fact that the evaluation of scholastic ability is primarily based on the reaction of the individuals expressed through language. In a multilingual country, however, a verbal test developed in a particular regional language cannot gain wide applicability. For example, in India where there are 14 major languages used in different parts of the country a need exists for a test which could measure verbal ability through a non-language medium or a language-fair medium. With this idea in view the Non-language Test of Verbal Intelligence (NLTVI) was developed and standardised (Chatterji and Mukerjee, 1968). The main objective was that the items would be presented before the candidates in such a way that while mentally solving the items they would have to make use of language

TABLE 1

Correlations of the VR-DAT with Different Parts of NLTVI along with Means, Standard Deviations Intercorrelations among Parts of NLTVI and Corresponding Maximum Scores

Girls N = 167	Boys N = 201		Correlations NLTVI Parts						
	I	II	III	IV	Total	VR-DAT	Mean	S.D.
NLTVI									
I	—	.34	.28	.37	.78	.45	15.18	3.61
II	.31	—	.30	.37	.62	.34	11.66	1.74
III	.18	.28	—	.30	.66	.38	10.77	2.50
IV	.23	.49	.40	—	.71	.39	9.84	2.53
Total	.74	.64	.64	.70	—	.56	47.50	7.43
VR-DAT	.27	.38	.22	.39	.44	—	17.62	6.81
Mean	15.62	11.79	10.84	9.96	48.22	20.35		
S.D.	3.99	1.61	2.58	2.60	7.49	7.28		
Max. Poss Score	20	14	14	14	62	50		

Note.—Upper triangle represents girl's group and lower triangle boy's group

processes, though the particular language they would be using would not be specified.

During the course of its development, the items were so selected that they had high correlations with a verbal reasoning test of the usual type that had been constructed purely for this purpose. It was also observed there that the NLTVI had fairly high predictive validity related to a criterion of school achievement.

The purpose of this study was to determine the degree to which the NLTVI could measure the verbal intelligence of examinees in terms of its correlation with a well known standardised test of Verbal Reasoning from the Differential Aptitude Test Battery (VR-DAT) (Bennett, Seashore, and Wesman, 1963). In addition, the predictive efficiencies of these two tests with respect to a scholastic achievement measure were compared.

Methodology

Subjects

The total sample of 368 students consisted of 201 boys and 167 girls in six English medium schools at Calcutta. All in Class IX, these students had two more years before leaving the high school. Most of them were in the age group of 12 to 15 years. Only English medium schools were selected as otherwise, the VR-DAT could not have been administered at that level.

Variables

The NLTVI yields four part scores: Analogy, Opposites, Classification, and Picture Arrangements. These part scores were separately

considered in this study. For the VR-DAT, however, only one score was available.

The school examination marks were collected for the students who had taken the tests. The examination marks were categorised under the following four groupings of allied subjects:

(1) Language—English, Vernacular, and Classical Language
(2) Science—Mathematics, Physics, Chemistry, and Geography
(3) Arts—History, Economics and Logic
(4) Grand Total—Sum total of the marks obtained in all the subjects examined.

Besides these, evaluation marks obtained in English were considered separately to observe their relationships with VR-DAT.

Statistical Analysis

The scores on VR-DAT were correlated with different part scores and with the total of the part scores of the NLTVI. All these calculations were done by summerising data from different schools, but separately for boys and girls. These correlation coefficients are presented in Table 1, along with the means, standard deviations, and intercorrelations among the parts of the NLTVI. For the relationship between NLTVI and performance in school subjects, multiple correlations were computed, whereas for VR-DAT, however, single (zero) order correlation coefficients were obtained. All these values are presented in Table 2.

Findings: Analysis and Interpretation

Relation of NLTVI with VR-DAT

From the entries in Table 1, the following points seem to be important.

TABLE 2
Correlations between School Marks and Scores Obtained in NLTVI and Those in VR-DAT

School Subjects	N	BOYS VR-DAT (Zero-order) r	NLTVI Multiple R	N	GIRLS VR-DAT (Zero-order) r	NLTVI Multiple R
English	201	.54	.30	167	.63	.47
Language	201	.53	.31	167	.49	.30
Science	153	.47	.28	69	.50	.43
Arts	157	.38	.32	81	.46	.36*
Grand Total	201	.49	.33	112	.63	.48

* Significant at the .05 level only. All the other values are significant at the .01 level.

(1) The relation between VR-DAT and NLTVI was not very high. Although both the tests could be measuring some common factor, at the same time they might also involve some uncommon factors.

(2) NLTVI was rather easy for the group in comparison with VR-DAT as revealed by the obtained mean score values and the maximum possible scores for the different parts.

(3) Part scores of the NLTVI were not highly correlated among themselves, though each part was fairly highly related with the total score.

Comparison of the Predictive Efficiency of VR-DAT and NLTVI

As mentioned earlier, the school examination marks were classified under four headings. As some of the subjects varied with the schools and as for some cases data were not available, the number of students in each of the four categories differed. However, the numbers of cases are presented along with the obtained correlations in Table 2.

From the data presented in Table 2 the following findings are summarized:

(1) The predictive validities of both the tests were in general higher in the girls' group than for those obtained in the boys' group.

(2) The predictive validity of the VR-DAT was higher than that of NLTVI as observed from the values obtained in each of the two groups.

Although it was mentioned earlier that NLTVI had high predictive ability with respect to school achievement, in the present study such an outcome was not equally demonstrated. The reason would appear to be that the test was quite easy for the group in question. Such a circumstance could not be avoided. If the ability level of a group is quite low, then the VR-DAT becomes more difficult. A high level of difficulty in the VR-DAT could also contribute to a low correlation. However, it is recommended that the same experiment should be repeated by using a suitable verbal reasoning test so far as the difficulty level is concerned, before any conclusion can be drawn.

REFERENCES

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