

External Validation of the Runco Ideational Behavior Scale

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Abstract

This study examined the relationship between scores on the Runco Ideational Behavior Scale (RIBS) and two other measures of creativity, the Figural Torrance Test of Creative Thinking (TTCT), and the How Do You Think (HDYT), and expected to find convergent validity between RIBS and TTCT scores and discriminant validity between RIBS and HDYT scores. Results, however, showed no relationship between RIBS and TTCT scores, and strong correlations between RIBS and HDYT scores. Implications of these results for the validity and use of the RIBS are discussed.

Rationale and Goals

The RIBS (Runco, M.A., Plucker, J.A., & Lim, W., 2000-2001) was recently created as a tool for assessing ideation, the ability to generate original ideas. It is intended to be a useful criterion for measures of divergent thinking, a component of creativity that involves the development of numerous distinct and original ideas. Research has shown that the RIBS has internal consistency, but there is no research examining how the RIBS relates to other measures of creativity.

The purpose of this study was to examine the external validity of the RIBS by comparing its scores to scores from two commonly used creativity tests, the HDYT (Davis, 1975) and the TTCT (Torrance, E.P., 1966). The HDYT is a self-report biographical/interest inventory, a measure that assesses past behaviors and present interests and attitudes to identify, in this case, tendencies and preferences in the respondent typically related to creativity. In contrast, the TTCT is a performance measure of divergent thinking which requires test-takers to produce ideas.

Because both the Torrance and the RIBS claim to measure ideation, we expect that their scores will be highly correlated; they should display convergent validity.

In contrast, because the HDYT is a biographical/interest inventory of creativity not limited to ideation, the RIBS should be less correlated with the HDYT than the RIBS, displaying discriminant validity.

Hypothesis 1: The RIBS and the TTCT will show convergent validity.

Hypothesis 2: The RIBS and the HDYT will show discriminant validity.

Sample Questions

RIBS 1

- I try to exercise my mind by thinking things through.
- I come up with a lot of ideas or solutions to problems.

RIBS 2

- Some people might think me scatterbrained or absent minded because I think about a variety of things at once.

HDYT

- I enjoy the confusion of a big city.
- I am unconventional in many ways.
- It is important to be able to laugh at ourselves.
- I worry about making mistakes.
- I could be considered a "spontaneous" person.

Methods

Participants:

Participants were 72 students from a private midwestern university. Of these, 59 were students in an introductory psychology course. The 13 remaining subjects were upper level Fine Arts students. No one subject was included in both samples, that is, no introductory psychology students were also Fine Arts majors and vice versa.

Participants' **year in school**: 38 first year students, 13 second year students, 14 third year students, 5 fourth year students, and 2 students with other status.

Participants' **gender**: 63.9% female (n = 46) and 36.1% male (n = 26).

Procedure and Measures:

The TTCT, the HDYT, and the RIBS were given to either Fine Arts students or those enrolled in introductory psychology class. The order of presentation of the inventories was varied across students. Pearson's *r* correlations were computed between the overall scores on the three measures.

The TTCT is one of the most widely used and validated tests of divergent thinking. The Figural TTCT is a measure of creative products that requires test-takers to produce drawings which are scored for dimensions related to creativity, not technical goodness. The test results in five subscores that combine into a score called TTCT Average, and bonus ratings that are added to the TTCT Average to produce the overall score, called TTCT Index.

The HDYT is a biographical/interest inventory. Unlike the TTCT, it does not require producing ideas; the test-taker responds to 100 items related to creativity using a five point likert scale. The inventory results in one overall score.

The RIBS is intended to be a self-report counterpart to the TTCT. It is a biographical/inventory containing twenty-three questions divided into two factors. It results in an overall score and two sub-scores.

Description of Measures

- RIBS**: "Runco Ideational Behavior Scale": a two factor test claiming to measure ideation.
- RIBS1**: Creation of ideas in general.
- RIBS2**: Non-focused ideation.
- HDYT**: "How Do You Think" a biographical inventory.
- TTCT**: "Torrance Test of Creative Thinking" a test of divergent thinking.
- TTCT Average**: The average of the five factor scores on the TTCT.
- TTCT Index**: The TTCT Average score on the TTCT plus bonus points.

Results Summary

Means and standard deviations overall and by subgroup are presented in Table 1. Comparison tests showed that art students obtained significantly higher scores than introductory psychology students on the HDYT, the RIBS Total, and the RIBS 2.

We found that the correlation between the TTCT and the RIBS was not significant ($r = -.202, p > .05$), showing no convergent validity between the two tests which claim to measure the same construct. These results can be seen in Table 2.

Contrary to expectations, there was a large significant correlation between the HDYT and the RIBS, $r = .723, p < .01$. As shown in Table 2, the HDYT and the TTCT showed no significant correlation $r = -.115, p < .05$.

Table 3 illustrates the correlations between scores on the three creativity tests by subgroup. While there is no difference between the subgroups on many of the correlations, differences were found between art and introductory psychology students in the correlations between the HDYT and the RIBS 1, and the RIBS 1 and RIBS 2 scores.

Means and Standard Deviations

	Overall N = 72		Intro Psych N = 59		Adv. Art N = 13		T-Test
	MEAN	SD	MEAN	SD	MEAN	SD	
HDYT	310.56	36.725	302.73	33.389	346.08	30.385	-4.301*
RIBS Total	77.17	16.049	75.12	15.807	86.46	14.216	-2.381*
RIBS 1	57.81	12.182	56.64	11.945	63.08	12.318	-1.748
RIBS 2	19.08	5.367	18.47	5.273	21.85	5.097	-2.099*
TTCT Average	100.94	11.290	101.80	10.738	97.08	13.307	1.373
TTCT Index	113.07	12.093	113.86	11.395	109.46	12.847	1.192

*p < .05

Table 1: Mean and standard deviation of HDYT, RIBS, and TTCT scores.

Correlation of TTCT with RIBS and HDYT

	HDYT	RIBS TOTAL	RIBS 1	RIBS 2	TTCT Average
RIBS TOTAL	.723**	-	-	-	-
RIBS 1	.655**	.938**	-	-	-
RIBS 2	.608**	.804**	.584**	-	-
TTCT Average	-.143	-.226	-.172	-.305**	-
TTCT Index	-.115	-.202	-.164	-.261*	.981**

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

Table 2: Intercorrelation of HDYT, RIBS, and TTCT scores.

	RIBS		AVERAGE		CREATIVITY INDEX
	HDYT	TOTAL	RIBS 1	RIBS 2	
HDYT	-	.601*	.396	.502*	-.078
RIBS TOTAL	.715**	-	.799**	.884**	-.021
RIBS 1	.695**	.966**	-	.239	.005
RIBS 2	.571**	.810**	.830**	-	-.256
AVERAGE F	-.080	-.233	-.184	-.282*	-
CREATIVITY INDEX	-.047	-.205	-.170	-.230	.978**

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

Note: Introductory psychology students are in lower diagonal. Art students are in upper diagonal.

Table 3: Intercorrelations of HDYT, RIBS, and TTCT scores by subgroup.

Conclusions

This study shows that two tests, RIBS and TTCT, which both have internal validity and claim to measure ideation do not have convergent validity. These results cannot be attributed to range restriction in scores. This suggests that these two tests do not in fact measure the same constructs.

The finding of a strong positive correlation between RIBS scores and HDYT scores suggests the RIBS measures constructs similar to those of the HDYT. This brings into question the usefulness of the RIBS as a criterion for measures of divergent thinking such as the TTCT. However, this finding may be unique to the Figural TTCT. This is the first study and more research would need to be done to confirm or contest the results.

References

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