

This Week's Citation Classic

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Wallach M A & Kogan N. *Modes of thinking in young children: a study of the creativity-intelligence distinction*. New York: Holt, Rinehart & Winston, 1965. 357 p.
[Duke Univ., Durham, NC and Educational Testing Service, Princeton, NJ]

This book succeeded in finding creativity tests which were strongly correlated with one another and virtually uncorrelated with standard measures of intelligence. These results gave empirical support to the belief that creativity is a human characteristic quite different from intelligence. [The *Science Citation Index*[®] (SCI[®]) and the *Social Sciences Citation Index*[™] (SSCI[™]) indicate that this book has been cited over 345 times since 1965.]

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"The limitations of conventional intelligence tests have long been suspected, but attempts to demonstrate those limitations empirically have not been easy to come by. The major appeal of this book has been that it succeeded in such an attempt. It argued that previous work had failed to provide convincing evidence because too wide a range of different functions had been included under 'creativity,' at least some of which overlap with intelligence. Also, the purported measures of creativity had been administered under test-like conditions, whereas exercise of creativity calls for more relaxed, game-like circumstances. The book showed: (1) Tasks could be defined which, on their face, looked relevant to creativity—tasks concerning the readiness of a person's flow of ideas and the uniqueness of the ideas produced. (2) These tasks could be administered under relaxed, game-like conditions. (3) Productivity and uniqueness of ideas, assessed under game-like circumstances, not only was consistent across different kinds of tasks, but virtually unpredictable from results on intelligence tests. I believe the book has been highly cited because it systematically demonstrated

ways to assess creativity as distinct from intelligence.

"The unfinished business remaining from where the book left off was considerable. First, the book proposed two necessary characteristics for making creativity tests independent from intelligence tests — namely, they should concern ideational flow and they should be administered under game-like rather than test-like circumstances. In the book, however, these two characteristics had been varied jointly. The basic outcome in work since has been to show that, contrary to what we first thought, administration context does not seem to matter. Ideational fluency tests give individual differences that are essentially independent of intelligence whether administered in game-like or test-like contexts.¹

"The second major area of unfinished business concerned the crucial question of what the ideational fluency tests have to do with creative achievements in real life. Extensive research by various investigators in the years following the book has addressed this question. Results suggest that intelligence tests not only fail to predict ideational fluency but also fail to predict these real-life accomplishments. Ideational fluency tests, in turn, may do a little better than intelligence tests at such predictions, but, in fact, do not predict well enough to serve as useful proxies for the real-world achievements themselves. Tests of ideational fluency are subject to many sources of variance besides what they may have in common with the display of real-life creativity, for example, a tendency to please a test administrator by trying harder to come up with more ideas. What best predicts creative achievements in the world is earlier achievements of similar kinds.^{2,3} Intelligence tests do have striking limitations, therefore, but to find out more about creativity we seem best advised to study real-life accomplishments themselves and the conditions that bring them about."

1. Wallach M A. *The intelligence creativity distinction*. Morristown, NJ: General Learning Press. 1971. 32 p.
2. Tests tell us little about talent. *Amer. Sci.* 64:57-63. 1976.
3. Psychology of talent and graduate education. (Messick S & Associates, eds.) *Individuality in learning*. San Francisco: Jossey-Bass. 1976. p. 178-210.