

## **Gardner's View of Intelligence**

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Howard E. Gardner's framework for understanding intelligence is one of the most well-known alternatives to the more widely-accepted Cattell-Horn-Carroll model of intelligence (CHC). In 1983, Gardner published *Frames of Mind: The Theory of Multiple Intelligences*, in which he rejected the idea of a single intelligence (*g*) in favor of multiple, relatively independent intelligences. In his introduction for the third edition of *Frames of Mind*, Gardner describes a myriad of inspirations for his theory, including a notable lack of research on artistic talents within cognitive psychology. Gardner argues that the traditional definition of "intelligence" is too narrow, and that some of the abilities we might call "talents" are actually types of intelligence that often are not assessed through traditional intelligence tests.

One of the key underpinnings of Gardner's multiple intelligences (MI) theory is the idea of what constitutes an intelligence. In *Frames of Mind*, Gardner outlines eight criteria that define what is and what is not an intelligence within his theory. Gardner's eight criteria are:

1. Examples of individuals displaying high levels of a unique form of intelligence, such as seen in savants
2. Neural structure distinguishable from those of other major intelligences
3. Distinct, identifiable developmental trajectory

4. Basis in evolutionary biology, which may include evidence of the intelligence in primates and/or clear survival value for early humans
5. Susceptibility to coding within symbol systems
6. Empirical support from intelligence tests
7. Distinguishability from other intelligences through experimental tasks
8. Identifiable mental processes related to each intelligence

Using these eight criteria Gardner initially identified seven intelligences, including musical, bodily-kinesthetic, logical-mathematical, linguistic, spatial, interpersonal, and intrapersonal. In Gardner's view, future research may provide support for the addition of new intelligences. To date, Gardner has added an eighth intelligence -- naturalist intelligence -- to this list, and has himself speculated about other intelligences, such as spiritual, moral, and existential. In Gardner's texts, these intelligences are often explained through examples including fictional vignettes, relevant professions, and famous exemplars of each intelligence (see Gardner, 2008).

One of the criticisms of Gardner's MI theory is semantic; the characteristics he describes as intelligences are not commonly considered as such. Gardner himself notes in the introduction to *Frames of Mind* that his selection of the term intelligence rather than faculties or abilities is one reason his theory is difficult to reconcile with most other intelligence theories. Another key criticism is that whereas most research on intelligence, including Gardner's intelligences, finds that different abilities are correlated, providing support for the idea of a general factor of intelligence (*g*), Gardner argues that several of his intelligences are not correlated substantially with one another.

A third criticism of MI theory is the lack of traditional tests available to measure several of the intelligences Gardner theorized. Gardner argues that attempts to measure the less traditional intelligences are usually not “intelligence-fair.” That is, paper-and-pencil tests designed to measure his intelligences may inherently require the respondent to make use of linguistic or logical/mathematical intelligence. Other tests devised to measure his intelligences seem to Gardner to amount to merely assessing preference or enjoyment rather than the intelligence itself. On this point he concludes that “a battery of multiple intelligences tests is inconsistent with the major tenets of the theory” (Gardner, 1995). Through studies such as Gardner’s Project Spectrum, some researchers have worked towards measurement of MI through naturalistic observation and ecologically valid, in-school tasks.

MI theory has found greater acceptance in the field of education than it has in the field of psychology, perhaps because it lends support to the popular idea that standardized education does not fit the needs of every student. The application of MI theory in teaching is seen mostly through emphasis on individuation and pluralization: the ideas, respectively, that each student’s mixture of strengths and weaknesses is unique and that teachers should strive to shift from one intelligence modality to another to facilitate learning. While many books exist describing different ways to implement MI theory in education, few published, peer-reviewed studies provide empirical support for the practice.

**Further Reading:**

Gardner, H. E. (1983) *Frames of mind: The theory of multiple intelligences*. New York, NY: Basic.

Gardner, H. (1995). Reflections on multiple intelligences: Myths and messages. *Phi Delta Kappan*, 77, 200-209.

Gardner, H. E. (2008). *Multiple intelligences: New horizons in theory and practice*. New York, NY: Basic.

Visser, B. A., Ashton, M. C., & Vernon, P. A. (2006). Beyond g: Putting multiple intelligences theory to the test. *Intelligence*, 34(5) 487-502. See also response to this article from Gardner in the same volume and Visser et al.'s reply.