
Academic Performance Of School Children With Their Intelligence Quotient

S. D. KULKARNI*, **N. R. PATHAK****, **C. S. SHARMA*****

Department of Physiology *Surat Municipal Institute of Medical Education & Research (SMIMER), Surat (Gujarat State, INDIA), **B. J. Medical College, New Civil Hospital, Ahmedabad (Gujarat State, INDIA), *** Government Dental College, New Civil Hospital, Ahmedabad (Gujarat State, INDIA)

Abstract:

Present study was carried out to correlate academic performance of Indian school children with their intelligence quotient (as measured by Porteus Maze Tests). These tests have been tried and tested successfully in previous studies, don't require sophisticated equipment and are easier to administer than traditional tests like Wechsler Tests. Contrary to popular belief, no statistically significant correlation was found in this study between intelligence and academic grades. Thus intelligence is not a prerequisite to succeed in examinations and therefore in life.

Key words: Intelligence Quotient (IQ), Porteus Maze Tests, Intelligence, Academic performance Academic grades

INTRODUCTION:

Intelligence is the most valuable wealth of humans. Intelligence is assessed and not measured because in all its meaning and application, it is not a thing; it is only an idea, an abstraction. Thurnstone¹ (1946), Griffith² (1933) and Piaget³ (1983) have all come up with their definitions of intelligence but perhaps the pioneer in this field is David Wechsler. He defined intelligence as the aggregate or global capacity of an individual to act purposefully, to think rationally and so to deal effectively with his environment. It helps an individual to consciously adjust his thinking to new requirements. Thus, it is a general mental adaptability to new problems and conditions of life. Intelligent mind and efficient hands work in coordination with each other.

Majority of people are average, a few very bright and a few very dull.

Intelligence also varies in the same individual from situation to situation. As child grows in age, so does the intelligence. Mental development occurs from the concrete to the conceptual, formal and symbolic. While heredity determines the level of intelligence, it is the environment that either slows down or expedites its development. Thus, the main purpose of education is to develop child's intellect in a well-designed environment. Vertical growth of intelligence ceases at 16-20 years of age, but accumulation of knowledge and acquisition of skills continue throughout the life span of an individual. Therefore the so-called "tapping intellectual resources" means an effective advance in the function of the brain⁴.

Intelligence includes many basic factors such as attention, imagination, observation, thinking, judgment and mental perception through sensory

organs and memory. Porteus Maze Tests (used in the present study for assessing intelligence) while being simple, inexpensive and easy to administer, encompass all these aspects of intelligence.

It is popular belief that intelligent people always do well in life. Present study was carried out to correlate academic performance of Indian school children with their intelligence quotient (as measured by Porteus Maze Tests).

MATERIALS AND METHODS:

The study was conducted on 320 randomly selected students (studying in standards 1st to 8th) of a Government School in India half of whom were of either sex.

The area and school were chosen keeping in mind the composition of Indian society with due consideration to various parameters (like socio-economic status^{5,6}) so as to get an unbiased representative sample. The selected children were subjected to general clinical medical examination to rule out any major mental or physical illness or disability.

Informed consent was taken from the principal and parents after explaining them the aim and nature of the study and their wards' role in it.

Percentage of marks secured by each participating student during the preceding academic year was noted as a measure of his/her academic ability. Children were graded⁷ according to their academic performance as follows:

- Marks
- ✓ > 75%
- ✓ 60% - 75%
- ✓ 45% - 60%
- ✓ < 45%

Intelligence Quotient (IQ) of the participants was assessed using The Porteus Maze Tests⁸ for various 'mental' ages. These paper-pencil tests consist of successive puzzle charts of increasing levels of difficulty. The age inscribed on the toughest test chart which a subject was able to solve successfully was taken as his mental age. Then his IQ was calculated as:

IQ = (Mental age) / (Chronological age) × 100
Children were categorized⁴ according to their IQ levels as follows:

- IQ
- ✓ > 115
- ✓ 100 - 115
- ✓ 85 - 100
- ✓ < 85

Observations were recorded after taking due care to reduce instrument and observer errors to a minimum. Correlation academic performance with Intelligence Quotient was done using Chi-Square Test⁹.

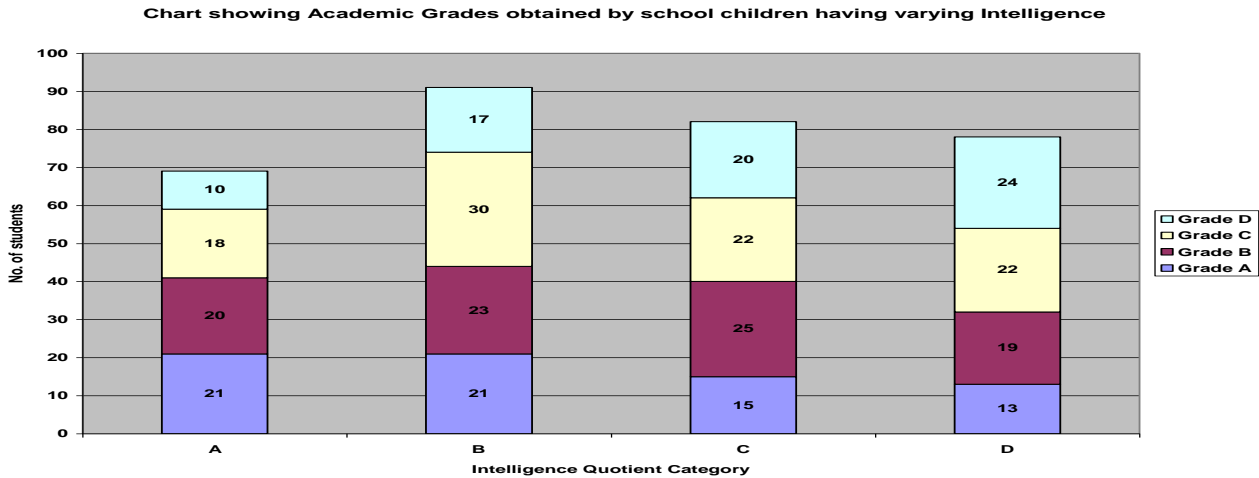
RESULTS AND DISCUSSION:

Table I

IQ	Academic Performance				Sub total
	"A"	"B"	"C"	"D"	
"A"	21	20	18	10	69
"B"	21	23	30	17	91
"C"	15	25	22	20	82
"D"	13	19	22	24	78
Subtotal	70	87	92	71	320

0.1 < p < 0.5 (df = 9) (Not Significant)

Our study found no statistically significant correlation between intelligence quotient and academic performance in Grade A participating students. This finding is revolutionary because it challenges the layman's notion that intelligence is the sole determinant of academic performance.



Graph I

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So what then is the mantra for success? Previous studies have concluded that an unhealthy child could have a dismal academic record even if his/her genes predict a high IQ for him/her⁷. On the other hand, with average intelligence, a person can still excel in studies provided he/she maintains adequate fitness¹⁰. Thus, success at work (which determines success in life) depends largely on fitness and health and not merely on one's intelligence. Your genes could give you the edge but only after a healthy mind, body and soul have put in their best efforts¹¹.

There is a lesson to be learnt here for parents and teachers. Your children could be god-gifted but if they are not nurtured in a proper environment, they may not realize their true potential. Physical health, mental peace, social security and spiritual well-being are perhaps more important than natural talent for success in life.

CONCLUSION:

Intelligence has no relation whatsoever with academic performance of school children. Children with average IQ can fare well in studies. Conversely, 'above average' children may not get the grades expected of them.

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