Original Research Paper

Volume : 5 | Issue : 11 | November 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

"RE-ESTABLISHMENT OF VALIDITY OF CREATIVE QUOTIENT ASSESSED BY STANDARDIZED COGNITIVE ABILITY TEST"

Education

KEYWORDS: Creative Quotient (CQ)
Concurrent Validity
Standardized

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ABSTRACT

The in hand research was conducted to re-confirm and re-establish the concurrent validity of the numerical value of Creative Quotient as assessed through the standardized Cognitive Ability Test. The research was conducted in and around Chandigarh. The sample consisted of 240 school going students between 7-16 years of age from different schools. Random sampling was followed. The sample was divided into 4 groups according to their age. The Creative Quotient of all the subjects were found in two different stages, using two varied tests, both of which are developed and standardized scientifically. It was established through results that the Cognitive Ability Test is valid measure to find out the Creative Quotient of the subjects.

1 INTRODUCTION

Research studies on creativity have identified critical individual and contextual variables that contribute to individuals' creative performance. However, the psychological mechanisms through which these factors influence creative performance have not yet been systematically investigated. Inevitably, creativity is related to various processes of thought and experience, including intuition, inspiration, intelligence, various processes of mental representation, specific perception processes, problem finding and problem solving. Creativity is a distinguishing characteristic of human excellence in every area of behavior (Torrance.E.P, 1987). People often associate creativity with words such as new, unusual, ideas, out of the ordinary imagination, unique, exciting, wacky, open, fuzzy, or something radically different. It is common for the students to relate creativity to the arts: composing or performing plays, making great sculpture, the paintings of the masters, writing great literature, composing and performing music, and the like. It is a word that often has a great deal of positive power and energy associated with it, within and across cultures. On the other hand, it is unusual for people to associate creativity with words such as usefulness, value, and purposeful. When we probe further, we find that some people often perceive creativity as something not very worthwhile, and in some cases, even as something quite negative (Anastasia, 2014). Theories and ideas about creativity stem from far back in history, unsurprising as Ryhammer & Brolin (1999) point out, given that the development of new ideas and original products is a particularly human characteristic. The notion of 'inspiration' or 'getting an idea' is found in the Greek, Judaic, Christian and Muslim traditions and is founded on the belief that a higher power produces it. During the Romantic era in Europe, the source of inspiration and its artistic expression was seen as being the human being. During this era, originality, insight, the creative genius and the subjectivity of feeling were highly valued. From the end of the nineteenth century, people began to investigate the question of what fostered creativity. The first systematic study of creativity was undertaken by Galton (1869). His focus was 'genius' and there followed a hundred or so studies on this theme, defined as achievement acknowledged in the wider public arena. This line of investigation remained prevalent into the 1920s, when the focus in psychology shifted to the investigation of intelligence. Although Binet's work included some investigation of the creative side of intelligence, the major study of creativity in psychology occurred in the 1950s. These approaches to the study of creativity continue to provide theoretical frames for investigators, although with different emphases at different points in time.

2 METHOD

Rapport was built with the subjects on the first day. On the second day, Creative Quotient of Group-1 (subjects aging between 7-10 years of age) and Group-3 (subjects aging between 12-14 years of age) was initially found using the Test-1. In contrast, those from Group-2 and Group-4 were given Test-2 to test their CQ. A halt was given for next two days, following which, the subjects of Groups 1 and 3 were tested for CQ through Test-2, while those from Group 2 and 4 were tested for CQ using Test-1. The CQ as calculated by both the tests was converted into percentage to enable the comparative and statistical analysis.

TEST-1 AND TEST-2

Test 1 is the Cognitive Ability Test already developed and standardized.

Test 2 is the "Incomplete Figure Test", an iconic test of creativity, developed in the '60s by psychologist Ellis Paul Torrance. The Torrance Test of Creative Thinking (TTCT) sought to identify creativity. It is a drawing challenge in which a wage shape is given to the respondents, and then they are asked to complete the image. Building on J.P. Guilford's work and created by Ellis Paul Torrance, the Torrance Tests of Creative Thinking (TTCT), a test of creativity, originally involved simple tests of divergent thinking and other problem-solving skills.

2.1 SAMPLING

Random sampling was undertaken to select subjects both males as well as females from different schools aging between 7-16 years. The sample was divided into four groups.

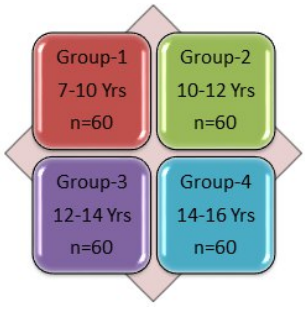

Fig.1 Sampling

2.2 STAGES OF STUDY - The Groups were compared in two stages.

Table 1: STAGES OF STUDY

Groups	Group-1	Group-2	Group-3	Group-4
Age Range	7-10 Yrs	10-12 Yrs	12-14 Yrs	14-16 Yrs
Day-1	**Rapport Building**			
Stage-1 Day-2	CQ tested by Test-1	CQ tested by Test-2	CQ tested by Test-1	CQ tested by Test-2

Day-3 & 4	Halt			
Stage-2 Day-5	CQ tested by Test-2	CQ tested by Test-1	CQ tested by Test-2	CQ tested by Test-1

2.3 STATISTICAL ANALYSIS

Once the data was obtained, it was coded, tabulated and analyzed,

Table 2 Statistical tools used for analysis of data

S. No.	Statistical tools	Formula	Purpose
1.	Mean (x)	X = X/N where, X = Variable N = No. of sample	To find out the average scores of variable used in the study.
2	Standard Deviation (S.D.)	$0 = \sqrt{\Sigma x / N}$ Where X = Deviation from actual mean X = mean. X = variable. N = number of samples.	To find out deviation from the mean scores of the variables.
3.	Standard error of mean (S.E)	S.E = 0/n Where 0 = S.D. n= number of observations	To find out the degree to which the mean is affected by the error of measurement and sampling.
4.	't' test	$t = (x1-x2) / S \sqrt{n1n2/n1 + n2}$ where x1 = mean of 1st sample x2 = mean of second sample S = combine S.D. n1 = number of observations in 1st sample. n2 = number of observations in 2nd sample	To compare the average score of any two groups or to find out whether the mean of the two samples vary significantly from each other.

3. RESULTS AND DISCUSSION

Table 3: Mean, Standard deviation, standard error and t-values of Test-A & Test-B of subjects aging between 7-10 years (n=60)

	Mean	SD	SEM	t-value	Lev of Sig.
Test-A	64	6.12	0.79	0.4392	NSS
Test-B	63.5	6.35	0.82		

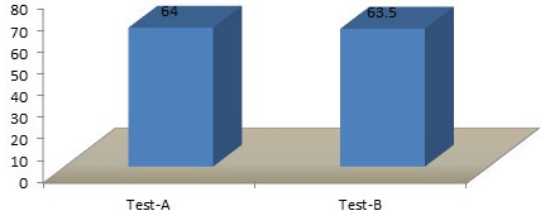

Fig.2: Mean Difference between CQ of subjects aging 7-10 years, as derived from Test A and Test B

It was recorded that here was an insignificant difference in the CQ of the respondents aging between 7-10 years as assessed through the two tests.

Table 4: Mean, Standard deviation, standard error and t-values of Test-A & Test-B of subjects aging between 10-12 years (n=60)

	Mean	SD	SEM	t-value	Lev of Sig.
Test-A	57.6	4.15	0.53	1.107	NSS
Test-B	58.6	5.63	0.72		

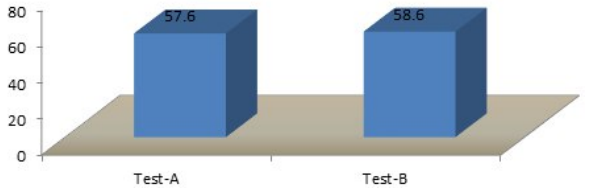

Fig.3: Mean Difference between CQ of subjects aging 10-12 years, as derived from Test A and Test B

There was statistically an insignificant difference in the CQ of the respondents aging between 10-12 years as assessed through the two tests.

Table 5: Mean, Standard deviation, standard error and t-values of Test-A & Test-B of subjects aging between 12-14 years (n=60)

	Mean	SD	SEM	t-value	Lev of Sig.
Test-A	67.9	5.42	0.6997	0.3166	NSS
Test-B	68.2	4.95	0.639		

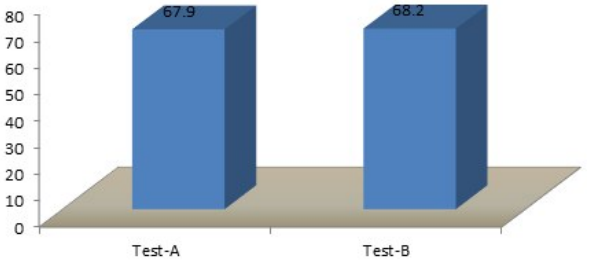

Fig.4: Mean Difference between CQ of subjects aging 12-14 years, as derived from Test A and Test B

There was a negligible difference in the CQ of the respondents aging between 12-14 years as assessed through the two tests.

Table 6: Mean, Standard deviation, standard error and t-values of Test-A & Test-B of subjects aging between 14-16 years (n=60)

	Mean	SD	SEM	t-value	Lev of Sig.
Test-A	71.3	6.52	0.84	0.7639	NSS
Test-B	72.14	5.48	0.707		

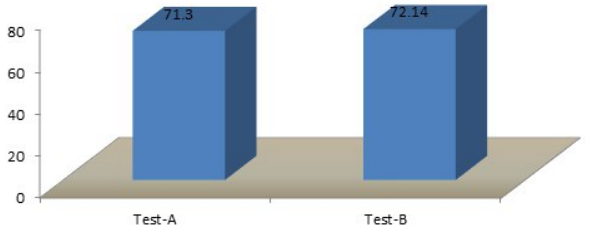

Fig.5: Mean Difference between CQ of subjects aging 14-16 years, as derived from Test A and Test B

There was minimal difference in the CQ of the respondents aging between 14-16 years as assessed through the two tests.

4. CONCLUSION

Creative ability is found in every child in the society. The children who possess the creative ability face the problems with challenges and overcome them. The Creative Quotient of all the subjects were found

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in two different stages, using two varied tests, both of which are developed and standardized scientifically. As creativity plays such a capricious role in everyone's life, it becomes utmost important to measure, assess and enhance this ability. It was witnessed through results that the Cognitive Ability Test is a valid measure to find out the Creative Quotient of the respondents.

5. ACKNOWLEDGEMENT'

Authors express indebtedness to the Almighty, who is the apostle of strength. Authors are inevitably grateful to the subjects and all those directly as well as indirectly involved in the auspicious research work. Genuine thanks are expressed to all the authors/researches whose work is referred for making the present study a real success

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