

Effect of Motor Educability on Academic Achievement of Adolescent Students: With Reference to Jammu and Kashmir

Showkat Ahmad Chat¹, Dr. Sudhir Rajpal², Dr. Sharda Kashyap³

¹ Research Scholar, Department of Physical Education, Dr. C V Raman University

² Associate Professor, Department of Physical Education, Dr. C V Raman University

³ Senior Sports Officer, Govt. Bilasa Girls College, Bilaspur (C.G.)

[Showkatchat55@gmail.com](mailto>Showkatchat55@gmail.com)

Abstract: The aim of the present study was to assess the relationship between motor educability and academic achievement of adolescent students of Jammu and Kashmir. This study was carried out on 500 adolescent students studying in various schools operational in the State of Jammu and Kashmir. The sample comprises of 250 adolescent boys and 250 adolescent girls between the age range of 14 to 17 years. From each age group 50 adolescent students were selected. To assess motor educability of selected adolescent subjects Metheny-Johnson motor educability test was used. It is useful for age group 11 to adulthood. It consists of test items such as front roll, back roll, jumping half turns and jumping full terms for overall assessment of motor educability. Academic achievement of the selected subject was assessed by total marks obtained in previous year's examination. The total marks are then converted to have score out of 100 marks. 25th and 75th percentile scores on motor educability test were used to divide cases into high, average and low level of motor educability groups. One Way ANOVA reveals that adolescent students with high level of motor educability showed significantly superior academic performance as compared to adolescent students with average and low level of motor educability. It was also observed that academic achievement of adolescent students with average level of motor educability was significantly superior as compared to adolescent students with low level of motor educability. It was concluded that motor educability is one of the strong contributor towards academic achievement of adolescent students.

[Showkat Ahmad Chat, Sudhir Rajpal, Sharda Kashya. **Effect of Motor Educability on Academic Achievement of Adolescent Students: With Reference to Jammu and Kashmir.** *Researcher* 2019;11(2):31-33]. ISSN 1553-9865 (print); ISSN 2163-8950 (online). <http://www.sciencepub.net/researcher>. 7. doi:[10.7537/marsrj110219.07](https://doi.org/10.7537/marsrj110219.07).

Keywords: Motor educability, adolescent students, academic achievement

Introduction

Adolescence is in-between stage of physical and mental human development that takes place between childhood and adulthood. This transition involves biological, social, and psychological changes. Apart from these changes the academic performance in adolescent age is also crucial. In India great emphasis is placed on academic achievement. This is not unusual because of its importance for adolescent to get better chances for studies in higher education institutions. Due to so much importance of academic achievement in India researcher have conducted studies to ascertain the factors associated with it. One such factor that has also been studied extensively in connection with academic achievement is motor educability. Matthews (1983) defined motor educability as "the ease of a person in learning new skills. Baumngartner and Jackson (1995) opined that motor educability is the ability to learn motor skills effortlessly and well. Lutan, (1988) defined motor educability as the general ability to learn a task without delay and precisely. Researchers such as Goldstein et al. (1994), Bonifacci, P. (2004), Grissom, J. B. (2005), Hillman et al. (2005), Howie and Pate (2012), Sandeep et al. (2018) attempted to establish relationship

between motor educability, physical fitness, motor fitness with academic achievement and more so intelligence. But the results are contradictory and since intelligence is different from academic achievement, the researcher decided to assess the impact of motor educability on academic achievement of adolescent students.

Objectives:-

The objective of the present study is to assess the impact of motor educability on academic achievement of adolescent students studying in various schools of Jammu and Kashmir.

Hypothesis:-

It was hypothesized that proficiency in motor educability will significantly influence academic achievement of adolescent students.

Methodology:-

The following methodological steps were taken in order to conduct the present study.

Sample:-

This study was carried out on 500 adolescent students studying in various schools operational in the State of Jammu and Kashmir. The sample comprises of 250 adolescent boys and 250 adolescent girls between the age range of 14 to 17 years. From each age group

50 adolescent students were selected. Purposive sampling is used in the present study.

Tools:-

Metheny-Johnson Motor Educability Test:

To assess motor educability of selected adolescent subjects Metheny-Johnson motor educability test was used. It is useful for age group 11 to adulthood. It consists of test items such as front roll, back roll, jumping half turns and jumping full turns for overall assessment of motor educability. This test is highly reliable and valid.

Academic Achievement:

Academic achievement of the selected subject was assessed by total marks obtained in previous year's examination. The total marks are then converted to have score out of 100 marks.

Procedure:

- 500 adolescent students of both the sexes with 13 to 17 years of age were selected randomly from schools operational in Jammu and Kashmir.

After standard ethical protocol, the selected adolescent students were subjected to test items such

as front roll, back roll, jumping half turns and jumping full turns for overall assessment of motor educability.

- Previous years academic records were used to evaluate academic achievement of selected subjects.

- To distribute subjects with high, average and low level of motor educability, Q_1 and Q_3 statistical technique was used.

The 25th percentile score on motor educability test was 19.00 while the 75th percentile score was 32. The scores of adolescent subjects falling above P_{75} (Q_3) were considered as high level of motor educability, scores lying below P_{25} (Q_1) were considered as low level of motor educability while scores between the 25th and 75th percentile treated as average level of motor educability.

To compare academic achievement of adolescent students bifurcated into high, average and low motor educability group, One Way ANOVA and Least Significant Difference Test was applied. The results are presented in table 1 and 2 respectively.

Results:

Table 1 Descriptive Statistics of Scores on Academic Achievement among Adolescent Students with Varying Degree of Motor Educability (N=500)

Groups	N	Academic Achievement	
		Mean	S.D.
Adolescent Students - High Motor Educability	138	85.85	14.79
Adolescent Students- Average Motor Educability	231	75.77	16.65
Adolescent Students - Low Motor Educability	131	67.23	14.22
F=48.45, p<.01			

The F=48.45 shown in table 1 statistically states that academic achievement of adolescent subjects exhibiting high level of motor educability (M=85.85), average level of motor educability (M=75.77) and low level of motor educability (M=67.23) differ significantly.

The obtained result shown in table 1 was also confirmed by Least Significant Difference Test presented in table no. 2.

Table 2 Comparison of Mean Scores on Academic Achievement in a Group of Adolescent Students with High, Average and Low Motor Educability (N=500) Least Significant Difference Test with Significance Level.05

Mean (I)	Mean (J)	Mean Difference (I-J)
Adolescent Students with High Motor Educability	Adolescent Students with Average Motor Educability	10.08*
	Adolescent Students with Low Motor Educability	18.61*
Adolescent Students with Average Motor Educability	Adolescent Students with Low Motor Educability	8.53*

* Significant at.05 level

Statistical data shown in table 2 gives following inferences:

- Academic achievement of adolescent subjects with high level of motor educability was found to be significantly superior as compared to

adolescent subjects with average and low level of motor educability. The mean difference of 10.08 and 18.61 was found to be statistically significant at.05 level.

- Academic achievement of adolescent subjects with average level of motor educability was found to be significantly superior as compared to adolescent subjects exhibiting low level of motor educability. The mean difference of 8.53 was found to be statistically significant at .05 level.

On the basis of analysis of data, following results are obtained:

Discussion:

Results clearly state the strong influence of motor educability on academic achievement of adolescent students. Results are not surprising because both motor educability and academic achievement is related to learning new concept or skill. So proficiency in one aspect such as motor educability also reflects in excellence in academic achievement of adolescent subjects.

Conclusion

On the basis of results, it can be concluded that motor educability predicts academic performance of adolescent students in way that mastery in learning new motor skills or motor educability also yields fruitful results in terms of academic achievement.

References

1. Baumgartner, T. A. and Jackson, A. S. (1995). *Measurement to Evaluation in physical Education and Exercise Science*. Iowa: Brown & Benchmark Publisher.
2. Bonifacci, P. (2004). Children with low motor ability have lower visual-motor integration ability but unaffected perceptual skills. *Human Movement Science*, Vol. 23, Issue 2, pages 157-168.
3. Goldstein D. J. and Britt T. W. (1994). Visual-motor coordination and intelligence as predictors of reading, mathematics, and written language ability. *Perceptual and motor skills*, Vol. 78, Issue 3, Pages 819-823.
4. Grissom, J. B. (2005). Physical Fitness and Academic Achievement. *JEPonline*;8(1):11-25.
5. Hillman, C. H., Castelli, D. M., & Buck S. M. (2005). Aerobic fitness and cognitive function in healthy preadolescent children. *Medicine and Science in Sports and Exercise*, 37, 1967-1974.
6. Howie, E.K. and Pate, R.R. (2012). Physical activity and academic achievement in children: A meta historical perspective. *Journal of Sports and Health Science*, 1(3), 160-169.
7. Lutan, R. (1998). *Belajar Keterampilan Motorik Teori dan Metode*. Jakarta: Dikti, P2LPTK.
8. Matthews, D. K. (1983). *Measurement In Physical*, Second edition. Philadelphia: WB Saunders Company.
9. Sandeep, U., Chandrachooda, M. and Suraya Prabhu, S. (2018). Compare intelligence and motor educability among high school boys and girls of Kundapura Taluk, Karnataka state. *International Journal of Physiology, Nutrition and Physical Education*; 3(2): 747-752.

2/25/2019