

Gender Difference in Motor and Mental Development in Children: An Impact of Stimulating Activities

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ABSTRACT The study was conducted in rural area of Hisar District of Haryana State. 100 children in the age group of 2-3 years old were selected at random from two villages namely Gangva and Muklan Children from village Gangva acted as control group and children from village Muklan acted as Experimental group. Visual Motor Integration (VMI) were used to assess these children for their motor skills and found their status. Then an intervention programme was implemented on these children to enhance their skills. After intervention programme, the respondents were again assessed for their level of motor skills in both the experimental and control groups. It was found that there was a certain impact of intervention programme on the respondents in experimental group and also observed that the improvement was more in all skills of boys as compared to that of girls.

INTRODUCTION

“Motor development is the sequential, continuous age-related process whereby movement behavior changes” (Haywood and Getchell 2001). Motor skills composed of locomotion, manipulation and stabilization; for example, the gross motor development of an infant involves gaining control over the skills of crawling, walking and standing (Berk 2003). According to the American Academy of pediatrics, by the end of three years, a child should be able to climb well, walk up and down stairs with alternating feet, kick a ball, run easily, pedal a tricycle, and bend over easily without falling. It is reasonable to expect a three-year-old to have these gross motor skills

The perceptual motor skills improve with practice, generally improving rapidly during the early childhood period. Pre-term children demonstrated significantly lower legibility and slower speed scores compared with control children for most of the handwriting tasks (Feder et al. 2005). A greater progress in perceptual problem-solving skills in delayed infants and young children than in motor, self-help and visual motor areas (Hewitt et al. 1983). An intervention was effective tool for improvement in development of perceptual motor skills (Resnick et al. 1988). Significant improvement in both loco motor and object control skills through the activity-based intervention (Apache 2005)

METHODOLOGY

The study was conducted in Haryana State in the year of 2006. Two villages namely Gangva and Muklan were selected as locale of the study. A sample of 100 children in the age group of 2-3 years old was randomly selected. Tools used were Bayley Scales of Infant Development (BSID) by Nancy Bayley (1969) and Berry's Development Test of Visual Motor Integration (VMI) (1989). The Bayley Scales (BSID) was used to assess the mental development and finally Mental Development Index (MDI) was calculated similarly Gross and fine motor skills were measured and Psychomotor Development Index (PDI) was calculated. The visual Motor skills were assessed with the help of Development Test of Visual Motor. The scores obtained were analyzed to calculate the Visual Motor Integration (VMI). An Intervention Programme was prepared and administered to the below average respondents for a period of one month to enhance their level of motor skills. The t-test was used to see the impact of intervention programme on different skills of children.

RESULTS AND DISCUSSION

Table 1 explained the impact of stimulating activities on different development such as namely Mental Development Index (MDI) for Perceptual skills, Psychomotor Index (PDI) for

Table 1: Gender difference in motor and mental development in children in relation to stimulating activities (N = 100)

Variable	N	Existing status	Improved status	Extent of improvement	't' value
<i>MDI (Mental Development Index)</i>					
Boys	50	55.90 (9.00)	91 (8.01)	8.01	2.51**
Girls	50	58.50 (3.52)	77 (4.43)	27	1.78**
t-value		2.70*	2.21*		
<i>PDI (Psychomotor Development Index)</i>					
Boys	50	69.58 (14.48)	82.18 (16.27)	12. 60	2.79*
Girls	50	65.43 (11.79)	67.52 (12.67)	.2.0 9	2.43*
t-value		2.93*	2.58*		
<i>VMI (Visual Motor Integration)</i>					
Boys	50	3.82 (1.68)	8.15 (4.33)		2.52*
Girls	50	3.68 (1.63)	3.84 (1.45)		1.19
t-value		0.83	2.85**		

** Significant at 1% level of significance, * Significant at 5% level of significance

Gross and fine motor skills and Visual motor integration (VMI) for Visual motor skills on boys and girls in the age group of 2-3years. It was found that there was significant difference in motor and mental development of boys and girls. But after imparting stimulating activities it was found that the increase in skills was significantly better as compared to boys as they surpassed girls in development of all the three variables. This may be due to that their mothers in comparison to girls had given the boys an extensive care. Pless (2001) in his study for preschool children also found that the average indices of the boys are more than girls. The increase in Mental Development Index (MDI) was 8.01 for boys and 4.43 for girls the difference was significant (2.21*). The increase was significant (2.58**) in case of Psychomotor Index (PDI) as the increase in boys was 12.60 and in girls the same was 2.09. The Visual Motor Integration (VMI) of the boys increase (8.15) significantly better (2.58**) as compared to the girls as the increase for them was 3.84. Thus it can be said that intervention was effective for improvement of the motor abilities of boys and girls. The effectiveness of intervention programme was concluded and supported by Edwards and Sarwark (2005). It was also found that the average indices of the boys were more than girls. Apache (2005) emphasized on activity based intervention in motor skill development. Significant improvement in both locomotor and object control skills

through the activity-based intervention was found compared to direct instruction.

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