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EFFECT OF DEMOGRAPHIC FCTORS ON PHYSICAL DEVELOPMENT OF CHILDREN

DR AYESHA FARHEEN, ASSISTANT PROFESSOR, METHODIST GIRLS P.G.COLLEGE, ROORKEE.

INTRODUCTION

The period of late childhood starts from the age of six years to the time the individual becomes sexually mature. For most children late childhood-the period from 6 to 12 years is a time for settling down, for developing more fully those patterns that have already been set. At the beginning and end of this period, late childhood is marked by conditions that deeply affect a child's personal and social adjustments. Erickson (1963) has referred to middle childhood as the period of the industry. The word captures the spirit of this period, for it is derived from a Latin term meaning "to build." Craig (1996). The foundation of late childhood is marked by the child's entrance into first grade. Demographic factors such as age, gender, religion, school board, number of sibling, family size, birth order and socio-economic status have significant effect on physical development of children.

Physical Development during Late Childhood

Late childhood is a period of slow and uniform growth until the changes of puberty begin. Physical growth follows a predictable pattern, although variations do occur. Body build affects both the height and weight of a child in late childhood. The annual increase in height is 2 to 3 inches. The average eleven-year-old girl is 58 inches tall and weighs 88.5 pounds whereas boy of the same age is 57.5 inches tall and weighs 85.5 pounds. The ectomorph, who has a long slender body, can be expected to weigh less than a mesomorph, who has a heavier body. Children with mesomorphic builds grow faster than those with ectomorphic or endomorphic builds and reach puberty sooner. At this stage, muscle increase in length, breadth, and width (Nichols, 1990). Good health and good nutrition are vital factors in the growth and development of children. The better the health and nutrition, the larger children tend to be the age for age as compared with those whose nutrition and health is poor. The bones harden; the height and weight increase at this stage and there is an improvement in a child's motor development, skill, and endurance. A child at this stage is physically restless. He must engage himself in one or the other activity. The child develops skills like - self-help skills, social-help skills, school skills, and play skills. Apart from doing his or her own works, the child becomes

able to help others in this stage. At school, the child develops the skills needed in writing, drawing, painting, clay modeling, sewing, etc. The children also develop skills like - throwing, catching, riding a bicycle, swimming, etc. By the end of the late childhood stage, a child normally has twenty - eight of the thirty - two permanent teeth. The last four - the wisdom teeth erupt during adolescence. Sex differences in physical growth are slow in early years but become more pronounced in late childhood. Boys tend to be slightly shorter and lighter in weight than girls because their growth spurts start a year later than girls. The school-age child is capable of controlled, purposeful movement (Nichols, 1990). At the beginning of late childhood; children have a large storehouse of skills that they learned during the preschool years. What skills older children learn depends partly on their environment, partly on the opportunities given them for learning, partly on their body builds, and partly on what is in fashion among their age mates. Marked sex differences, for example, exist not only in play skills at this age but also in the level of perfection of these skills. Girls, as a rule, surpass boys in skills involving finer muscles, such as painting, sewing, weaving, and hammering, while boys are superior to girls in skills involving the grosser muscles, such as throwing a basketball, kicking and doing board jumps. Children learn self-help skills, social help skills, school and play skills (Hurlock, 1981).

OBJECTIVE OF THE STUDY

To analyze the effect of demographic factors on physical development of children (6-12 years).

HYPOTHESIS OF THE STUDY

H_0) There is no significant effect of demographic factors on physical development of children (6-12 years).

METHODOLOGY

The basic purpose of the study is to analyse the effect of demographic factors on physical development of children. Hence, the study was conducted in eight schools, out of eight schools, 3 were AMU (govt) schools and remaining 5 were CBSE (pvt) schools.

Population and sample of the study

The well-specified and identifiable group is known as population. The population selected for the present research work comprises of school going children who are in the age group of 6 -12 yrs of AMU schools and CBSE boards of Aligarh district enrolled during the session 2016-17.

The schools were selected by stratified random sampling techniques. The information was collected from the children by the use of general information sheet prepared by the researcher.

Analysis of the data

Effect of demographic factors on the physical development of children during late childhood

In order to study the combined and individual effect of demographic factors on physical development of children, standard multiple regression was carried out with demographic variable such as age, gender, school board, religion, number of sibling, birth order, family size, socio-economic status as independent variables or predictors and physical development of children as dependent variable or criterion variable.

Results for the standard multiple regression are summarized in Table 1 which shows the individual effects of the demographic variable on the physical development of children. The overall regression model, including all eight independent variables, is statistically significant, F (8,391) = 2.789, $p < .01$, and accounts for 4.5% of the variance in physical development ($R = .215$, $R2 = .046$, Adjusted $R2 = .045$). This means that this set of eight demographic variables significantly predict the physical development of children.

Table 1: Result of Standard Multiple Regression to predict the physical development of children using demographic factors

Independent variables	Unstandardized coefficients		Standardized coefficients	t	Sig. (p)
	B	SE	β		
Constant	16.209	.790		20.52	.000
Age	.365	.124	.149	2.93	.004**
Gender	.535	.215	.131	2.48	.013*
School board	-.355	.226	-.083	-1.57	.117
Religion	.217	.239	.046	.91	.364
Birth order	-.036	.088	-.021	-.40	.683
Number of sibling	.059	.144	.021	.411	.681
Family type	.009	.213	.002	.043	.966
Socio-economic status	.359	.168	.106	2.14	.033*
$R = .215$; $R2 = .046$; Adjusted $R2 = .045$; F (8, 391) = 2.789; $p < .05$					

*p<.05, **p<.01

Table 1 displays the individual contribution of each independent variable towards the variance in the physical development of children. Three of the eight demographic variable are significantly predictive of physical development scores; these include age, t (391) = 2.93, $p < .05$; gender, t (391) = 2.48, $p < .05$ and socio-economic status, t (391) = 2.14, $p < .05$. The predictive relation of age, gender and socio-economic status to physical development of

children are positive, as indicated by the positive sign of the beta coefficient. It means as age increases the physical development score also increases. As gender changes, physical development scores also vary accordingly and as socioeconomic status rises, the physical development of children also gets better. The values of beta coefficient, which represent the unique contribution of each independent variable to explaining the variance in dependent variable when the overlapping effects of all other independent variables are statistically removed, are: β= .149 for age, β= .131 for gender and β= .106 for socio-economic status, this means that age contributes 14.9%, gender contributes 13.1% and socio-economic status contributes 10.6%. Age, having the largest beta coefficient, makes the strongest unique contribution to explaining the variance in physical development score, when the variance explained by all other variables in the model is controlled for followed by gender and then socio-economic status as shown in Figure 1. Thus, it is found that the predictor factors (demographic factors) affect the physical development of children during late childhood.

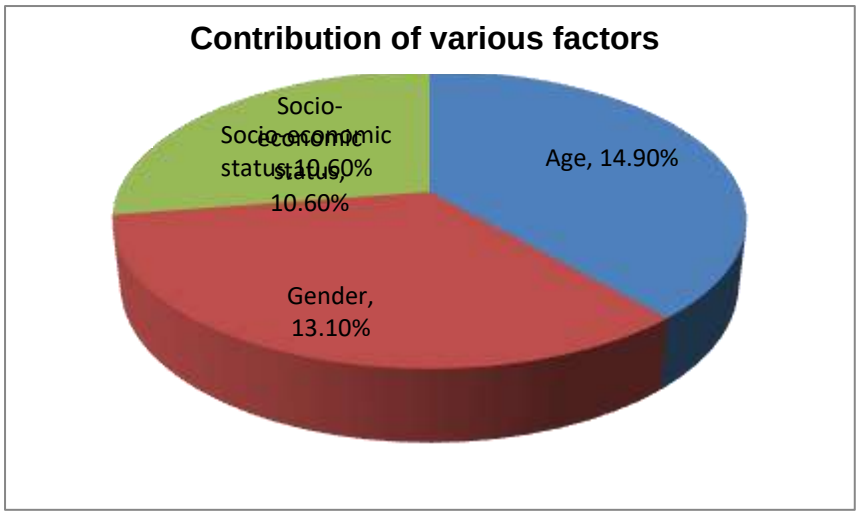

Fig. 1 Relative Contribution of Demographic factors on the physical development of children during late childhood

RESULT AND DISCUSSION

Effect of Demographic Factors on Child Physical Development during late Childhood

From the regression analysis, it was found that all of the predictor demographic variables i.e. age, gender, school board, religion, birth order, number of a sibling, family size, socio-

economic status when taken together bring forth an adjusted R square of 0.045. The interpretation of this is that 4.5% of the variance in child physical development can be explained by the combined influence of the above mentioned eight predictor variables. Further, beta weights offer an indication of the relative effects of each predictor variable on child development. It is found that age is the best predictor of child physical development (14.9%) followed by gender (13.1%) and socio-economic status (10.6%). However, in a study by Grace (1996), it was found that variability in physical development occurs in the timing and extent of growth during late childhood. This may be influenced by the environment, nutrition, gender, and genetic factors. Girls, for example, are slightly shorter and lighter than boys until age 9, when girl's growth accelerates because of hormonal changes that occur earlier in girls than in boys; girl's growth begins to outpace a boy's growth at that age. By the end of this period, girls become taller and heavier than boys. According to Singh (2015) gender, social setting, resource availability, and individual differences are vital in children's physical development. In addition, severe stress brought on by factors such as parental conflict can affect the functioning of the pituitary gland; thereby affect growth (Koska et al., 2002).

Socio-economic status is another factor that influences physical development of children and the result of this study showed that it was positively correlated with physical development of children, as socioeconomic status increases the mean physical development score increases the reason for this can be attributed to the fact as SES decrease it become difficult to provide sufficient nutritious food to every child depending on the socio-economic status and this, in turn,affect the physical development of children. Regarding physical health, the Black Report in 1980 showed that levels of morbidity and mortality were much higher in economically disadvantaged groups in Britain (Adler and Rehkopf 2008). This report also noted that health differences between lower and higher socioeconomic groups had widened since the National Health Service began providing universal healthcare in 1948. McDonough et al. (1997) examined the effect of income on health from 1972 through 1989. They found that values across the continuum of income were strong predictors of mortality, and fluctuations in income even increased the risk of health problems for average income earners. Lower-SES individuals are also exposed to many situations that are threatening and stressful, which reduces physical and mental health (Evans and Kim 2007; Pearlin 1999).

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