

# Impact of Education and Health on Economic Development in Pakistan: A Case Study of Multan City

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**ABSTRACT-** The present study was conducted to analyze the role of health and education on the state's overall development by reviewing the available literature on the said topic and by examining the primary data from survey conducted in Multan city. Random techniques were the key measuring rod of collecting the data from the sample population. A comprehensive questionnaire was prepared. The results showed that educated and healthy persons and families were participating more effectively in development of their job specifically and of the region generally as compared to those who were uneducated, less educated or had poor health.

**Index Terms:** Education, Health, Economic Growth, Economic Development, Educational Attainment, Social Indicators.

## INTRODUCTION

Health and education are two of the main concerns of policy makers in the third world countries. Primary need for human beings is better health. Human capital is taken as an asset in developing countries like Pakistan. Due to over population, developmental programs and method of production used commonly here are labor intensive in nature. Proper health of people of a country should be taken into an account as resident's health will help to improve the economic activities of that country and will bring economic development here.

Good health is taken as God's ultimate gift to mankind. There is a wise saying that "HEALTH IS WEALTH". A healthy person can perform all possible physical and intellectual activities to attain better standards of living. Mis-handling of this nature's gift may result into bad health which will become an obstacle and a hurdle to economic progress.

Along with health, there comes education as second social indicator for economic development. Education and the magnitude of educational attainment are rising with time. Education is now taken as basic economic indicator for both growth and development. Education has different stages such as Primary, secondary, or higher education. Due to globalization, knowledge based competition is promoting and giving weight to the higher education. Present study was conducted in one of the four big cities of Pakistan, i.e. Multan. Multan is a city with population around 3.5 million. This city is having agricultural base on one side

and many industries are also present. Pioneer research regarding economic development begins with Lewis [1], who showed the importance of education as an economic variable. Same sort of study has been conducted by Chatterji [2]. He examined the role of education in India on economic development. He has also shown the outcome of implication of the empirical results for education policy. He had also emphasized the importance of higher education particularly in India. He further added on the basis of his results, the importance of primary education. Higher education is participating in the progress of the world [3]. Highly educated graduates can better understand and utilize the latest technologies. Furthermore, they can not only use the latest technologies but can develop their own new tools and skills themselves. Benefits of higher education can be enjoyed in both private and public sectors.

Özsoy [4] further added that on the basis of higher education, employee can enjoy higher salaries, better health assistance and some handsome amount to save and invest. These individual gains will eventually lead to development of the society on the whole. Higher education's core mission is to develop such strategies which will eventually lead to the economic development. [5]

## OBJECTIVES AND SIGNIFICANCE OF THE STUDY

The study was undertaken to put forward some recommendations and suggestions in lieu of consequences of ill health and low educational attainment to accelerate the pace of economic development. This study focused on the role and importance of education and health in developing country like Pakistan. The emphasis was on, "whether higher education and all sectors of health can be a salient tool to economic development?" Both education and

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health were taken as the basic social indicators to measure any economy's overall position.

## LITERATURE REVIEW

To promote economic development, education and health both were taken as a major yardstick. Through this step any country can improve its skills, its productivity and more importantly its competency. Lately there had been increasing trend of studies undertaken relating to the subject under discussion.

Individual's education and health condition not only improves his own status but it brings benefits for the society as well that will help to shrink the income gap [6].

The interactions between health care expenditure and economic growth have received a lot of attention of researchers. Baldacci [7] explored the role played by health expenditures. He constructed a panel data set for one hundred and twenty developing countries from 1975-2000 and found that spending on health within a period of time affects growth within that same period while lagged health expenditures appear to have no effect on growth. He inferred from this result that the direct effect of health expenditure on growth is a flow and not a stock effect.

Bloom et al. [8] estimate a production function of aggregate economic growth as a function of capital stock, labor and human capital (education, experience and health). Their main result is that health has positive, statistically significant effects on economic growth. They however, do not consider how health is created.

Olaniyi and Adams [9] descriptively analyzed the adequacy of the levels and composition of public expenditures and conclude that education and health expenditures have faced lesser cuts than external debt services and defense, but allocations to education and health sectors are inadequate when related to the benchmark and the performance of other countries

Pancavel [10] in his work discussed all the levels of education including primary, secondary and higher education. His time series research indicated that average school enrollment for U.S. from 1973-84, rose from 15% to 23%. Due to this increase in school enrollment, the increase in higher education was much greater as a proportion to that. He also calculated that economic development and growth by higher education also increased.

Chatterji [11] used all available data to analyze the importance of tertiary education in economic growth and economic development. He found that previous studies were based on either primary data or on secondary data only through which the previous researchers calculated the growth rates. He found that the scope of the education process was widening to include tertiary education. His results suggested that tertiary education play a definite positive and vertical role in the process of economic development and economic growth.

Hatasa [12] found that female enrollment in education was still low or behind in least developed countries. But it improves as the country starts to develop and net educational attainment increases. This educational enhancement improves the general living standard of the people of that country. The author also concluded that to get consistent economic development, education is a key to that.

Lin [13] showed in his study that how higher education positively improved the economic growth in Taiwan. A percent change in the investment in human capital brought about 0.35 percent change in overall economic growth.

Hussain [14] emphasized on attainment of education can improve the wage bargain of a laborer he also argued that government should participate in creating such an infrastructure that could bound every social sector to help creating a strong schooling system for people belonging to any social class. He also added in his research that foreign remittances sent by Pakistanis living outside from Pakistan may also bring a positive change towards educational attainment in their families specifically and in society in general. He also appreciated the educational reforms of Punjab and Sindh province for freeing education up to metric levels.

Dutta [15] used Indian National Survey Data and estimated the returns to education for male workers and laborers (adult) for two decades. He used standard wage equation and augmented Mincerian wage equation for estimation with human capital measures and controlling the issue of selection bias. He analyzed that returns to education was not same. It was different for two types of labor force i.e regular workers and casual workers. He observed that casual workers had flat returns to education, where as the returns to education for regular workers was positive and U-shaped with respect to education levels. There was also some evidence of a widening wage gap between regular workers with graduate and primary education that could

possibly be a consequence of trade liberalization and other reforms pursued during the 1990s.

Chatterji [16] examined the impact of education, expenses incurred on education and its returns in a case study of India. He also analyzed the role of education on both economic growth and economic development. He suggested that female education is of high importance in India. He used data from 1966 to 1996, applied time series techniques to get the causal impact of all forms of education including primary, secondary and tertiary education. He concluded that educational rate of return was higher for secondary education as compared to the primary or tertiary.

Smadi et al. [17] provided the role of higher education in the kingdom of Jordan. They found that economic development was directly related to the attainment of higher education. Higher education had a positive correlation with economic development at the Hashemite kingdom of Jordan. They used analytical description as it was the best fittest way for research purpose. Their results provided that royal participation in promoting educational significance also had direct, positive relation with development.

Alam et al. [18] performed a time series analysis on female education and economic performance. They argued that one of the most important sectors of human capital is education. But due to large discrimination strategies, net female enrollment in education is quite low. They further stressed how a country can gain growth or development if 52 percent of its population is completely uneducated or least educated. They used time series annual data for the period of year 1975-2009 and applied tests like ADF and OLS regression techniques. They concluded that apart from educational discrimination, there are many other inequalities in other sectors of society that separates male and female. To improve a nation's overall standard such inequalities and discrimination must be reduced by strong infrastructure, educational awareness and vocational training especially for female.

Zaheer et al. [6] education is very important, taken as a basic step towards the economic growth and economic development of any nation. Their research was a time series research taking values from year 1980-2009. They used Co-integration and error correction models in their study. They analyzed the record of expenditure incurred by the government of Pakistan on the name of education and its ultimate impact on overall growth and development.

Dreze et al. [20] analyzed that overall economic scenario development of India fall in early 1980s. This fall was caused by many factors including the fertility. Authors used data taken from different Indian districts from the years 1981 and 1991. They examined their problem sector and found that women's education is specially the most important factor that caused fall in economic development across the India over time. They also found that there was no significant association between economic development, poverty reduction, modernization and fertility.

It can be concluded from all the studies conducted by [18], [19] etc., there exists positive relationship between health, education and development. What differs from one country to another is the extent and magnitude of contributions. This study will aim to fill the gap by studying the extent and magnitude of health expenditures along with educational attainment and its contributions to the growth of Pakistan's Economy.

## MATERIALS AND METHODS:

The heart of any piece of research work is the data collection, analysis and interpretation of the results. Data can be classified as primary, secondary and tertiary data. Here we took primary data collected through questionnaire prepared by the researcher. Sample population was selected through simple random sampling and they were given this questionnaire to fill it up for the execution of the research. In methodology we used Regression Analysis as it is one of the most used techniques and another technique was Logit model for empirical analysis, one of the binary choices which give the value 1 for its occurrence and 0 otherwise.

## RESULTS AND DISCUSSIONS

Table 1 reports the overview of the sample data in terms of our two basic social indicators i-e. of education and health. Parameters governing these social indicators were collected through questionnaire prepared by the researcher. Participants with strong educational and healthy background were greater as compared to those who were lacking in health.

Sample Locations	Total Respondents	Part. (Edu & Health)	Part. (Poor Health)	Part. %
(B) Pvt. College	100	79	21	79%
(G) Pvt.	100	94	06	94%

College				
Universities	100	80	20	80%

Table 1- Results of Preliminary Data Analysis of Education & Health

Source: Survey conducted by the author in 2013

This lapse was either due to contingent diseases and some were having effected due to viral problems. 79% of the response was observed from the boys college and 94% was from girls college, whereas, 80% observations were recorded from different private and governmental universities of Multan City.

### Regression Analysis

The regression equation for Education is

$$\text{edu. attan} = 2003 + 1550f.\text{sze} - 1321 \text{ incom.in} - 484 \text{ incom.out} - 1723 \text{ p.ern} - 6030 \text{ dep.r} + 2879 \text{ pat.r}$$

Predictor	Cof	StD	T	P
edu. attan	2002.7	877.7	2.70	0.008
f.sze	1550	1970	0.78	0.435
incom. in	-1321	1867	-0.70	0.484
incom.out	-484	1939	-0.24	0.811
p.ern	-1723	1996	-0.86	0.390
dep.r	-6030	1915	-3.15	0.002
pat.r	2879.4	766.7	3.76	0.000

Table 2- Regression Analysis

here, edu. attan is educational attainment, f.sze is family size, incom.in is income incoming, incom.out is income outgoing, p.ern is per capita income, dep.r is dependency ratio and pat.r is participation rate

$$S = 1508 \quad R^2 = 30.0\% \quad R^2 (\text{adj}) = 25.5\%$$

Source	DF	SS	MS	F	P

Regression	3	8.8916	2.5094	76.64	0.000
Error	93	3.8699	0.0738		
Total	99	12.7615			

Table 3- Analysis of Variance (ANOVA)

Variable	Value	Count
dep.v	1	151
	0	149
Total		300

Table 4- Response Information

Dependent Variable = Edu.health: 0,1

Log-Likelihood = -6.898

Method	Chi-Square	DF	P
Pearson	64.016	64	0.476
Deviance	83.703	64	0.050
Hosmer-Lemeshow	10.895	8	0.208

Table 6- Goodness-of-Fit Tests

Table 5 presents the logistic estimates of the educational attainment and health status. The empirical results showed that all of the coefficients in regression were significant from 1 to 5 percent of level of significance.

### CONCLUSIONS AND RECOMMENDATIONS

It was concluded after analyzing the impact of health and education on economic development that investing on human capital was the most efficient way for causing growth and improvement in the living standard. The study

also indicated that labor force participation had a vital role in economic growth. Families with more dependant members were highly pronged to poverty. Results also confirmed that both health and education have a positive, long-term relationship with development. Therefore, improved health status and attainment of higher education can be of significant importance to the overall economic growth of the country.

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Predictor	Coef	StDev	Z	P	Ratio	Lower	Upper
edu. attan	5.8219**	0.7635	1.08	0.282			
f.size	12.1027*	0.06748	-1.52	0.129	0.90	0.79	1.03
dep.r	-3.894**	1.244	3.13	0.002	49.12	4.29	562.74
pat.r	2.876*	1.111	-2.59	0.010	0.06	0.01	0.50

**Table 5- Logistic Regression (Odds 95% CI)**

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