

## **PRINCIPAL COMPONENT ANALYSIS OF SOCIOECONOMIC FACTORS AND THEIR ASSOCIATION WITH LIFE EXPECTANCY AT BIRTH IN ASIA**

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### **ABSTRACT**

Life expectancy (LE) is considered as one of key health outcome and a major indicator of human development as well. Wide ranges of socioeconomic and demographic factors have major impact on life expectancy rate at birth in various countries. Association of several socioeconomic factors with life expectancy at birth and the influencing factors in forty countries of Asia has been explored in this paper. Less surprisingly the results and discussions obtained in this paper are in agreement with previous research. A close relationship between several socioeconomic variables and life expectancy at birth is found. Principal components analysis (PCA) and backward regression is performed on quantitative secondary data collected from various databases which shows that life expectancy at birth is statistically significant at 5% level of significance and have positive association with four factors extracted from PCA. Strong significant positive correlation is found between life expectancy at birth and health expenditures, gross national income, good governance and healthy life. However crude birth rate, crude death rate and infant mortality rate has negative relationship with life expectancy at birth which shows life expectancy at birth decreases as crude birth rate, crude death rate and infant mortality rate increases. The reference year for this study is 2012.

**Keywords:** Life Expectancy, Socioeconomic Factors, Principal Components Analysis, Asia.