



Regional Inequalities, Childhood Socioeconomic Conditions and Adult Life Outcomes – Evidence from Pakistan

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Abstract

The circumstances during early years of life wield a significant impact on adult life outcomes by influencing and altering the cognitive, social and personality development of individuals. While these, in turn, are determined largely by the parental socioeconomic status which, in great part, depends on prosperity of the regions within which they dwell. This study assessed the relationship among regional inequalities, its influence on early life conditions and the consequent transmission to adult life in the shape of socioeconomic outcomes. For this purpose, secondary data on Pakistan's regional, economic and sociodemographic indicators was utilized. Results confirmed the significance of regional disparities over living conditions at the start of life and lifelong socioeconomic outcomes. A just spread of the economic pie among the regions can improve socioeconomic and living conditions at individual level. This can have favorable implications in the shape of healthy and productive adults.

Key Words: Regional inequalities, early life conditions, adult outcomes

Background

Countries strive for economic growth and prosperity so as to have enough resources at their disposal for improving lives of their masses. In fact, making progress on human development compass remains elevated within the priorities of democratic regimes. However, growth alone does not guarantee the standard and quality of life. Coupled with growth, a just spread of the economic pie is a requisite for ensuring a significant improvement in human lives. While in developing countries like Pakistan, embarking upon a growth trajectory is equally a challenge as is its distribution. Such countries exhibit a significant economic and human development gap as well as stark differences in living conditions and opportunities available to people across their regions. Such differences during the formative years of life have long lasting implications and can significantly influence adult life socioeconomic outcomes. The existing scholarship points towards the linkages between early life conditions and adult life denouements through several transmission channels. For instance, a growing body of literature ascertains the association ship between health conditions during infancy and the consequent measurements on related scales in later life. Stated differently, healthy children tend to become healthy adults and parents. Similarly, a health shock received during early life is most likely to be transmitted to the later stages of life.

A malnourished fetus or child, constrained at the start of life, will have lower chances to embark upon a trajectory of healthy life and cognitive development. Across these lines, (Skeaff, 2011) studied the effects of iodine deficiency in pregnancy on the child neurodevelopment. Since a pregnant woman need to meet iodine requirements of herself as well as the fetus, a 50% rise in the iodine intake is usually prescribed. A deficiency in this regard severely damages brain development and can cause retardation. Furthermore, nutrition shocks received by the utero, if any, can also have its impacts over the life cycle. This is evident from the case of nutritional deficiencies that arise in pregnant mother due to Ramadan fasting. A large number of Muslims that are presently alive, may have been exposed to nutrition deficiency in utero due to maternal fasting. This exposure affects cognitive development / skills as indicated by lower scores on math tests than the children born to non-Muslim parents (Majid, 2015). The chances of healthy brain as well as cognitive development may further eclipse, if the surroundings where an individual dwell, are prone to shocks like poverty, diseases, pollution or conflicts.

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These shocks exert a more intimidating impact on children than adults. Being at the initial stage of life, the children may be more sensitive to contaminated air, polluted water and numerous other forms of environmentally induced shocks. It is pertinent to mention that the various conditions / outcomes during infancy and adult life are not mutually exclusive and are rather inter-related. Health condition during infancy not only determines future health but can also influence and alter education, employment, income, family formation as well as several other socioeconomic indicators altogether. A rise in mortality rate would choke the labor force, employment as well as the national income. The importance and significance of early life conditions cannot be ruled out as these have a significant impact of on later (adult) life outcomes like academic performance, earning, health and criminal tendencies (Ben-Shlomo & Kuh, 2002; Currie & Almond, 2011). In the similar fashion, it could be inferred that the adulthood inequalities among individuals in terms of health, education and numerous other socio-economic indicators may also depend upon the disparities at the start of life.

Pakistan, a country of 207.7 million individuals (PBS, 2017), comprises of four provinces which are named as Punjab, Sindh, Khyber Pakhtunkhwa and Baluchistan. Across these regions, there exist asymmetries in socioeconomic conditions as well as the quality of dwelling. The roots of these imbalances can be traced to Pakistan's Colonial past as well as to the policy choices adopted following the independence.

Pakistan, after being carved out of the Indian Subcontinent in 1947 (Karim, Saeed, & Akber, 2019), inherited numerous forms of inequalities as Colonial legacy. Among the regions that comprises the present-day Pakistan, the economic and political interests of the former Colonial rulers confined to the provinces of Punjab and Sindh. While their strategic interests largely concentrated in the contemporary Khyber Pakhtunkhwa, previously called as North West Frontier Province (NWFP) and Baluchistan (Kakar, 2016). This is evident from the British era consolidation of agricultural infrastructure in Punjab and that of industrial orientation in Sindh. For instance, the development of canal colonies in Punjab between 1885 – 1940 (Ali, 1979) provided the necessary base for flourishing agricultural in the years to come. Similarly, following the annexation of Sindh with Bombay Presidency in 1843 (Panhwar, Khatwani, & Abbasi, 2019), the British Raj initiated the development of a modern port which led to the consolidation of an industrial base there. Such policies laid the roots of the imbalances among the regions that constitute the present-day Pakistan. The post-independence period witnessed little efforts to reverse these disparities and the development gap furthered with time. These inequalities have profound implications on human lives.

The circumstances at the start of life influences adult outcomes through several transmission channels. For instance, the conditions in early life can yield severe consequences in adult life primarily through productivity deficits and economic inequalities. Unfavorable economic conditions near the birth can put psychological strain on the parents which can affect the health of the fetus even prior to birth (Schoch, 2014). Environmental shocks can also affect physical and psychological development which can potentially reduce productivity in adult life and result in economic differences. Environmental factors transmit their impact to the adult life impact primarily through health shocks (Remoundou & Koundouri, 2009). This impact is even more significant in low and middle income countries that exhibit a rising level of urbanization (Stauber et al., 2018). Apart from environmentally induced shocks, nutritional deficiencies can also alter adult life outcomes through the cognitive, behavioral, social and emotional development of human brain. In the post birth period, the first 1000 days bear key importance in the growth and capacity building of the brain. During these days, the provision of optimal nutrition stands out to be one of the crucial element for influence brain development (Cusick & Georgieff, 2016). The provision of requisite nutritional needs requires significant monetary investments. Parents with an economically disadvantaged background would less likely be able to provide adequate nutrition during this crucial period. This may severely affect brain development by hindering cognitive and behavioral abilities and ultimately resulting in poor educational, health and employment performance during adult life.

The effectiveness of early interventions can be confirmed through historical data. In the 1930s, Denmark had a high infant mortality rate. The main cause of death in the first year of life was mainly the infectious disease. This state of affairs changed in the first part of the 20th century, which saw a decline in the infant mortality as a result of home visiting program. The home visiting program was the first public health intervention initiated by the State for infants and new mothers in Denmark. However, prior to this State led initiative, early interventions for infant health still existed. The most prominent one among those was the "infant ward" program for mothers

and infants, initiated by local philanthropic organizations. This program significantly raised infant survival rates, thus confirming the effectiveness and importance of early interventions (Wüst, 2012). The impetus for devising such programs was provided by numerous research findings which reinforced the relationship between early interventions and infant health. Prominent among such studies is the one conducted by (Wüst, 2012) which involved estimation of the effects of introduction of universal home visiting program for mothers and infants through 1937 and 1949. Using data for all Danish towns, a significant and positive relationship was found between early intervention, i.e. universal home visiting program, and survival rate. Early intervention, primarily the home visiting program allows the nurse to have an early contact with the infant. As a result, the nurse is able to identify the infants who are in need of treatment. Thus, the problem is dealt in a very early stage which not only yields optimum results but also remains cost effective. While studying another program of the similar nomenclature, Green et al. (2014) found that child maltreatment has high personal and societal cost, thus making effective early prevention a priority. They studied the effects of Early Head Start Program (EHS), a large federally funded program for infants, on child welfare. By using a national randomized trial method, they found EHS to be effective in improving child and parent outcomes. In the absence of such interventions, the individuals at the start of life, become prey to diverse shocks which halts the chances of becoming healthy and productive adults in future. Shocks resulting from poor hygiene and sanitation practices can lead to poor health outcomes in later stages of life (Boekelheide et al., 2012). Such shocks yield a more intimidating impact in those regions that are marginalized, excluded and socioeconomically backward. This is evident from the case of Pakistan where stunting is highest in the erstwhile Federally Administrated Tribal Areas (FATA) (UNICEF, 2017). This correlates with the highest incidence of multi-dimensional poverty in FATA (71.5%), which even exceeds the national average of 38.3% (House, 2019).

Parents within poor regions may exhibit poor socioeconomic status which can be an important driver of the early life conditions. During the antenatal period, the malnourishment of mother can pose serious hurdle to the proper weight development and survival of the upcoming child (Malik, 2016). Likewise, low parental or family socioeconomic status is associated with increased mortality or morbidity (Xu, Norton, & Rahman, 2018). This situation worsens in case of developing countries like Pakistan that exhibit rising inequalities, greater exclusion and mismatches among the regions. Individuals during their early life are major sufferers of low parental income, conflicts and inequalities (Maccini & Yang, 2009). Conditions during initial life impact educational outcomes and health status in later life along with altering employment trajectory (Arpino, Gumà, & Julià, 2018). Early interventions, in the form of pre-school participation is associated with significantly higher rates of educational attainment and low rates of juvenile arrest (Reynolds, Ou, & Topitzes, 2004). These findings were confirmed by (Todd & Winters, 2011), who assessed the effects of early intervention in child health on school enrolments in rural Mexico. Their results indicated that early health and nutritional interventions increases the probability of child's admission in primary school on time. Since the adult life outcomes are largely influenced by the early life conditions, which in turn, are influenced by the regional realities. Therefore, this study aims to assess these linkages by taking Pakistan as a case study. To accomplish this, the study utilized published data about the regional disparities / inequalities and compared its variations with the socioeconomic differences within the regions of Pakistan. The statistics were mapped with their respective regions, thus revealing the differences in opportunities available to people and the consequent disparities in adult life outcomes.

Results and Discussion

This study attempted to shed light on the relationship that exists between the conditions in early life and the outcomes in the later stages of life in Pakistan. It takes into consideration the exogenous conditions or “shocks” to which an individual is exposed either before birth or at the initial stages of life and the possible adult outcomes (Maccini & Yang, 2009). Early life conditions depend primarily upon socioeconomic status which greatly varies across the regions of Pakistan. There exist significant variations with respect to the development taking place both at inter as well as intra provincial level (Jamal & Khan, 2005). For instance, agriculture and industries remain concentrated in Punjab and Sindh, along with major share in services. This allows the populace in these provinces to enjoy better income and socioeconomic prosperity. This can adequately be gauged through the provincial agricultural and industrial shares in the national economy.

Sector Wise Shares of Provinces in Pakistan’s Economy (Percentage)

A glimpse of the shares of all provinces in the national economy with respect to agriculture, industries and services is given in table-1.

Table 1. Sector wise shares of provinces

	Share of Agriculture	Share of Industries	Share of Services
Punjab	62.3	39.8	55.7
Sindh	23.1	42.2	28.9
Khyber Pakhtunkhwa	10.5	14.2	13.0
Sindh	4.1	3.8	2.4

Source: (Pasha, 2019)

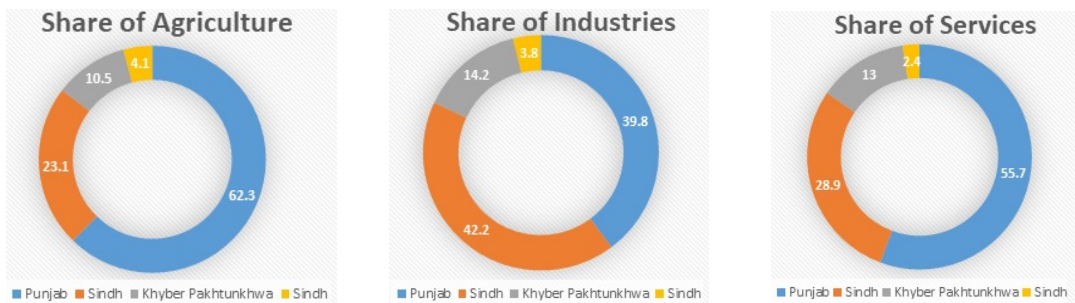


Figure 1: Sectoral shares of province

A snapshot of the above quoted statistics is given below in figure-1.

Source: (Pasha, 2019)

The above statistics correlate with the socioeconomic conditions of individuals in their respective regions. One of the key determinants of the household economic status is the per capita income. Parents with higher per capital income would be able to provide better nutrition, health amenities and education facilities to their children during their formative years of life. Thus, they will be able to significantly improve the outcomes in adult life through investment in the early stages of life. Conversely, parents with a disadvantaged economic background will miss out the opportunity to positively alter the adult life outcomes. A glimpse of this can be grasped by analyzing the provinces of Pakistan through the lens of per capita income, as given in the figure below.

Province Wise per Capita Income (PCI)

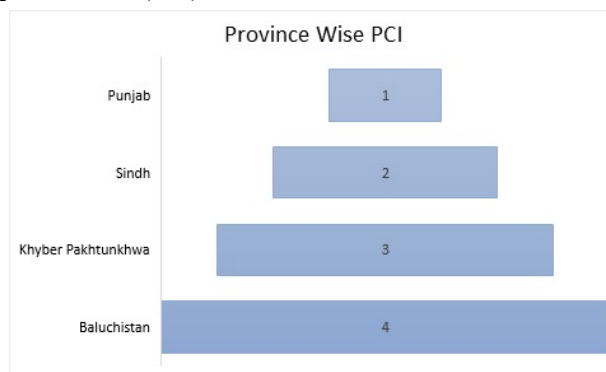


Figure 2: Provincial rankings on the basis of per capita income - Source: (Pasha, 2019)

It is most likely that parents within the economically backward regions, on average, tend to have meagre disposable incomes. Such financial strains could deter the parents from buying certain categories of food (Zhen-Duan, Engebretsen, & Laroche, 2019), which could take a toll on the child nutrition. Low income can also cause stress, food insecurity and poor housing quality, all of which significantly influences child health as well as the opportunities for later life (Health, 2017). The impact of such deficiencies on adult life socioeconomic outcomes in Pakistan can adequately be gauged through the human development index.

Human Development in Pakistan

“Human development focuses on improving the lives people lead rather than assuming that economic growth will lead, automatically, to greater wellbeing for all” (UNDP, 2019). The extent of human development can be measured through the human development index (HDI) which summarizes the numerous aspects relating to it. The HDI summarizes the level of human development by measuring three aspects, i.e. life expectancy, education and per capita income (World Bank, 2013).

The regional variations in per capita income in Pakistan has already been discussed under figure – 2. The proceeding sections discusses the other two aspects of human development. First, the province wise expenditure on education is discussed as it aids in boosting literacy and access to knowledge (Clemons, Gupta, & Inchauste, 2004). Afterwards, the health expenditure will be analyzed.

Province Wise Expenditure on Education

Educational expenditure is one of the significant investments in human beings. However, regional disparities in this expenditure can cause variations in the extent and quality of education. The extent of educational expenditure across the provinces of Pakistan is given in figure – 3.

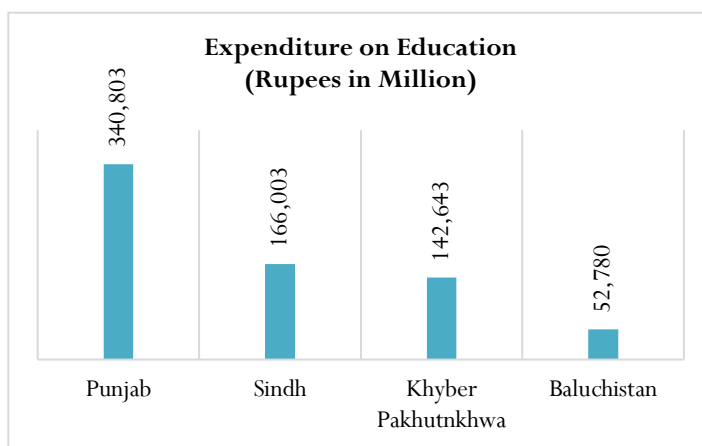


Figure 3: Province wise educational expenditure (2017 – 18)

Source: (Government of Pakistan, 2019)

The provinces with higher educational spending are most likely to have improved literacy and educational provision. Educational expenditure is complemented by the access to and quality of health facilities which in turn are determined by public spending.

Province Wise Expenditure on Health

Spending on health is positively and significantly related to health status and outcomes (Craigwell, Bynoe, & Lowe, 2012). Regional asymmetries in health expenditure can cause health inequalities and differences in the span of life. The regional disparities in health indicators across the provinces of Pakistan can be understood through their share in total public expenditure on health figure – 4.

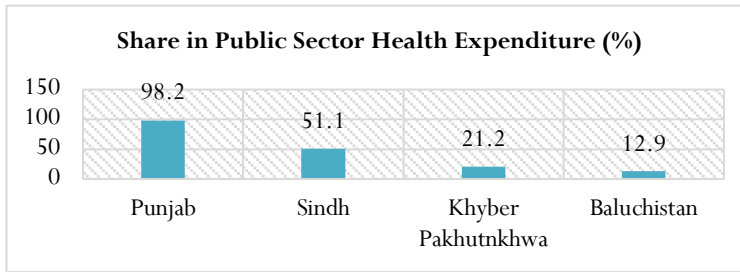


Figure 4: Province wise share in public health expenditure (%) (2017 – 18)
 Source: (Government of Pakistan, 2019)

The differences are pivotal for the human development across the regions.

Human Development Index (HDI) in Pakistan

The numerous types of regional disparities, the consequent differences in early life conditions / opportunities and the resulting impact on adult life outcomes is evident from the HDI differences among the federating units of Pakistan. It is given in figure – 5.

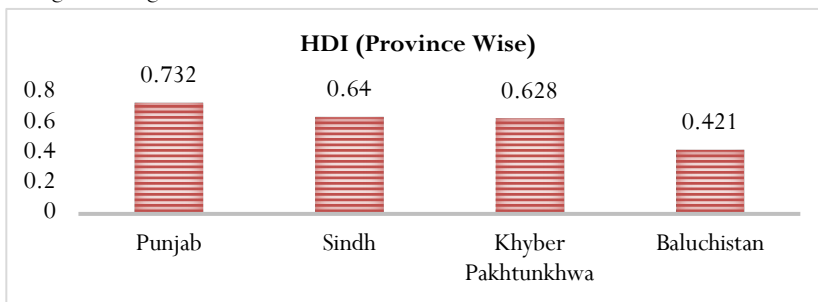


Figure 5: Province wise HDI
 Source: (Najam & Bari, 2017)

Conclusion

This study ascertained the relationship among regional inequalities, its influence on shaping the early life conditions of individuals and the consequent transmission to the adult life in the shape of socioeconomic disparities. The impact is more intimidating in case of Pakistan due to the presence of historical inequalities among the regions. Unfavorable conditions around birth as well as during the formative years of life halt the cognitive development which lead to worse outcomes relating to educational attainment, life-long health, employment performance, income and economic status. In the absence of adequate interventions, it is most likely that these disparities keep transmitting to the successive generations. Such transmissions can have serious implications for the labor market, societal integration, economy and the process of nation building. Since the early life disparities halts the potential and chances for success in adult life, it is most likely to instigate resentment among individuals who may resort to violence. This aspect is of particular importance in case of Pakistan which currently exhibit the highest percentage of young people ever recorded in its history. It is therefore pertinent to ensure an even spread of the economic pie among all the regions so as to provide a level playing field to the masses of. This on one hand needs efforts for greater inclusion, social cohesion and eliminating the historical inequalities. While on the other hand, there is a dire need for administrative reforms among the regions so as to develop them evenly. The resulting better conditions could provide the chances of better growth during early life which will certainly have favorable implications in the shape of healthy and productive adults. Such individuals will act as catalysts for embarking the country on the path towards the sustainable development. These long-term future outcomes can be better influenced through early interventions, usually at the start of life. Since interventions at an early stage are cost effective, long lasting and more optimal. These early interventions not only contribute in human capital formation, but also curb the inequalities in the initial stage of life.

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