

# Developing countries' educational barriers

[Technology](#), [Development](#)



Family plays a significant role in education in both developed countries and developing countries; however, the way it affects either of them can be very different. This is not always the case, though. Sometimes the effects of family on education can be very similar in both developing countries and developed countries (Buchanan and Hannah). In developed nations such as the United States of America and the United Kingdom, research has found that school factors have a less important role in "determining children's educational achievement" (Buchanan and Hannah) than does family background.

One of the factors that make up the family background is parenting. Research has found that "cognitive stimulation, caregiver sensitivity and responsiveness to the child, and caregiver affect" are closely related to "cognitive and social-emotional competence" in children of developed nations (Walker 152). However, later research found that in developing nations such as Uganda, school factors have the leading role in "determining academic achievement" (Buchanan and Hannah).

This has led the researchers, Handymen and Loosely, to conclude that "the poorer the country, the greater the impact of school and teacher quality on achievement" (quoted in Buchanan and Hannah). Teachers are one of the most relevant school factors in children's education. Research has found that in Honduras "multistage teachers have more repeaters" (McGinnis). This shows that school factors greatly impact a child's education in a developing country. An interesting way in which family background affects educational achievements is single parenthood, especially female headship.

Research in the United States of America has found that single parenthood negatively affects children's educational achievements; this can result in "greater probability of school drop-out" (Buchanan and Hannah). This happens due to "economic stress" and "the lack of human or social capital in the household" (Buchanan and Hannah). On the other hand, research in some African nations has shown the opposite outcome. It has been found that ; female headship appears to be associated with greater... Educational opportunities for children" (Buchanan and Hannah).

In South Africa, two researchers found that girls are less likely to leave school if the father is not present in the household (Buchanan and Hannah). Two other researchers, Lloyd and Blanch, found that in some sub-Saharan countries "female household heads are more likely to invest resources... in facilitating the education of children living in their household," even though those households tend to be poorer than male-headed households affects education. The number of siblings also affects the quality of education received by children.

Studies in the United States of America have concluded that there is "an inverse relationship between number of siblings and educational attainment" (Buchanan and Hannah). This outcome can be explained by the "resource dilution hypothesis" (quoted in Buchanan and Hannah), which states that "material resources and parental attention are diluted with additional children in the household" (Buchanan and Hannah). Similar outcomes have been observed in studies done in several developing nations (Buchanan and Hannah). However, this is not true for all developing nations.

For example, research in Africa showed that children in the household actually help with resources, and a study in Kenya found that the amount of siblings did not affect the " children's probability of enrollment" (Buchanan and Hannah). Nevertheless, the amount of education a child receives is affected by his or her position in the total number of siblings. Research in Taiwan has shown that the younger siblings receive more education and the oldest nest receive less. Another factor that greatly impacts children's education is health issues. Health issues can be caused by several factors, such as underproduction and environmental exposures.

Underproduction includes deficiency of important substances such as iron and iodine (Walker 146-151). Research has been able to show that children's development and underproduction are linked (Walker 146). " Deficits in intelligence and school performance continuing to adolescence" have been linked to underproduction (Walker 146). Iodine is an essential part of thyroid hormones. Thyroid hormones " affect central nervous system development and jugulate many physiological processes" (Walker 147). That is why having low levels of iodine intake can result in serious health issues such as mental retardation and hypothyroidism (Walker 147).

In 2005, an analysis of thirty-seven studies made in China on individuals of ages less than 16 years yielded that the IIS of individuals who had faced iodine deficiency " averaged 12. 5 points lower" than those of individuals who had not faced iodine deficiency (Walker 147). On the other hand, individuals who had iodine supplementation before and after birth " averaged 8. 7 points higher than those who did not" (Walker 147). Iron

deficiency anemia constitutes around half of the anemia cases in developing countries in children younger than four years (Walker 147).

Out of twenty-one studies, nineteen reported "poorer mental, motor, social-emotional, or neurophysiology functioning in infants with iron deficiency anemia than those without" (Walker 147). Studies have shown that children who have iron deficiency anemia are "developmentally at risk in the short term" and may also be "in the long term despite of iron therapy" (Walker 148). However, iron supplementation in children from developing countries show that iron is beneficial in several areas, "especially on motor and social-emotional outcomes" (Walker 148).

It is common in developing countries to find children younger than five years that suffer from infectious diseases (Walker 150). A study performed on children younger than five years discovered that the "presence of intestinal parasites was associated with poor language performance" (Walker 150). A high number of individuals in developing countries "live without access to clean water or adequate sanitation," and this increases the "risk for diarrhea of a child can be associated with "impaired cognitive performance" later on in the child's life, according to two Brazilian studies (Walker 150).

Children younger than fourteen years compose around two million of the total amount of people currently infected with HIV/AIDS (Walker 150).

Children infected with HIV/AIDS face several issues that range from an "increased risk of delays in several developmental domains, especially language acquisition" to "severe encephalopathy with catastrophic outcomes" (Walker 150). As it was mentioned earlier, health issues can be

generated not only by underproduction and infectious diseases, but also by environmental exposures.

Several studies have concluded that various environmental exposures can lead to different outcomes that range from lower IIS to poorer performance in mental aspects such as memory (Walker 150-151). The results of an Indian study of children between nine and thirteen years made an association between " prenatal pesticide exposure" and " lower analytical and memory skill" (Walker 151). Extensive research has proven that psychosocial risk factors, such as exposure to violence, affect the development of children and need intervention (Walker 145).

Many developing countries are facing ongoing wars or " community and lattice-sectarian violence," and the children from these countries are exposed to them (Walker 152). According to several studies, " higher levels of post-traumatic stress disorder, aggression, attention problems, and depression" have been observed in South African children " who were exposed to community violence" (Walker 152). It is necessary to analyze the educational and social outcomes in order to fully understand the impact of elements, such as health issues, family, and psychosocial factors, in a child's education.

The educational outcomes can be observed in the results of a study carried out in 40 Honduras rural schools. The results of this study showed that school dropouts are less common than grade repeaters and that a " low socioeconomic background relates to repetition" (McGinnis). Research has also found that for individuals in Chile's middle class " education was

significant in determining occupational attainment" (Buchanan and Hannah). This serves to show the social aspects of life, such as getting a job, can be severely affected by education.

It has been made clear that education can be severely affected by various elements such as family background, psychosocial factors and health issues, which can be divided into malnutrition, iodine deficiency, iron deficiency, infectious diseases, and environmental exposures. There are many possible ways to counteract each of these risk factors and their subdivisions. Some of these countermeasures work better if they are combined with countermeasures of other areas. Child development can be helped by combining programmes that focus on stimulation, nutrition and health.

Stimulation takes place through the interaction of children and their parents or caregivers (Engle 2003). Early, proper stimulation may present several benefits such as the boost of "neurological processing and brain functioning" and "dramatic improvements in child development" (Engle 2003). Research has found that the improvements of food intake in pregnant women and children "can prevent stunting and result in better motor and mental development" (Engle 2003). The diets of children in developing countries can be enhanced by properly addressing iron deficiency and iodine deficiency.

Increasing the amount of iodine in a child's food (Engle 2003). The best way to increase iodine levels in an individual's diet and consequently "improving cognition" is by salt iodination (Engle 2003). However, this has been proven to not be enough. A programme that was implemented worldwide that aimed to deal with iodine deficiency by salt iodination showed to have good

effects, but " the condition continues to threaten the development of many children" (Walker 147). An innovative way of dealing with iodine deficiency was implemented in a village of Mali, West Africa, which had high levels of goiters incidence.

A group of scientists invented a system of iodine supplementation that was not based on food or pills, but on water. This system was a " controlled release system based on silicone and an iodine salt" (Gentling et al. 540). This system was then submerged in the village's well. After twelve months, " the incidence of goiters had fallen from 53. % to 29. 2%," showing that the implementation of the system was successful and had great benefits for the local population (Gentling et al. 540).

The proper way to deal with iron deficiency in developing countries needs a different approach, and Angle's research has shown that " Detrimental effects in infants and toddlers might not be readily reversed by iron therapy" (230). Knowing this, prevention seems to be the best way to address the problem. One way to prevent iron deficiency anemia is by implementing iron supplementation. It has benefits such as " positive effects on motor, social-emotional, and language development" (Engle 230). There are two other ways in which iron deficiency can be addressed.

One of them is the implementation of " Iron-Fortified Drinking Water" (Alameda et al. 1). The fortification of water with iron was successfully implemented in low socioeconomic Brazilian families (Alameda et al. 3-4). The other one is the consumption of " Food prepared in iron cooking pots" (Grislier, Brain and Omar 275). Grislier, Brain, and Omar's research



concluded that " The introduction of iron pots or improving their use... In developing countries... Maybe a promising innovative intervention for reducing iron deficiency' (275).

Psychosocial factors sometimes cannot be avoided easily, or they are too difficult to get rid of. For this reason, the countermeasures that have to be taken must focus on addressing the problem after it has had an impact on either the child or his or her family. Studies in nations such as Reiterate and Bosnia have shown that " providing structured educational experiences to war exposed refugee children and providing training to mothers of such children can improve children's levels of cognitive and social- emotional competence" (Walker 145).