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Nathaniel Dwamena,
YAFO Institute, Centre for Public Health, Education and Poverty Reduction, Accra, Ghana
https://orcid.org/0009-0006-3281-8810
Natdwamena@yafoweb.org

Justine Guolidoma Kankpeyeng*,
YAFO Institute, Centre for Public Health, Education and Poverty Reduction, Accra, Ghana
https://orcid.org/0009-0003-9535-6236
gkankpeyeng@gmail.com
*Corresponding author

Benedicta Nelmon Amenor,
YAFO Institute, Centre for Public Health, Education and Poverty Reduction, Accra, Ghana
https://orcid.org/0009-0009-5320-2355
benedictanelmon@gmail.com

Joshua Larweh Tetteh,
YAFO Institute, Centre for Public Health, Education and Poverty Reduction, Accra, Ghana
https://orcid.org/0009-0008-6072-148X
tettehj154@gmail.com

COUNTING THE COSTS: THE UNINTENDED CONSEQUENCES OF GHANA'S FREE SENIOR HIGH SCHOOL POLICY ON HOUSEHOLD POVERTY IN GHANA

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Abstract. *This study investigates the unexpected repercussions of Ghana's Free Senior High School (FSHS) program on household poverty, with a particular emphasis on household savings. Structured interviews were used to obtain primary data from a purposive sample of 130 parents and 8 schools, including both private and public institutions. The study unveils that the FSHS policy has led to several unintended negative outcomes, including higher financial expenses, longer periods spent at home, lower academic achievement, inadequate infrastructure, overcrowded classrooms, insufficient meal provision, lack of teaching materials, and an increase in teenage pregnancies. The results of multiple linear regression analyses show that compared to increased financial stress, high rates of teenage pregnancy, lack of educational resources, low academic performance, extended amounts of time spent at home, and inadequate nutrition, have a significant negative effect on monthly household savings. The perceived unnecessary nature of the school list also significantly contributes to the adverse effect on household savings. The study suggests that the criteria for giving schools prospectus should be reviewed to verify that they are essential and cost-effective, which would help to reduce excessive expenses for parents. Furthermore, it promotes ongoing engagement with parents, educators, and community stakeholders to collect feedback and improve the FSHS program in accordance with their experiences and requirements. An effective monitoring and evaluation structure is crucial for routinely assessing the effects of the FSHS program, utilizing data to inform adjustments in policy and practice.*

Keywords: *Free Senior High School policy, Ghana, unintended, cost, poverty, household, multiple linear regression.*

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Introduction

The human ability required for any work is pervasively infused through education, which serves as a route for creating human resources to support many sectors of a nation (Chanimbe and Dankwa, 2021). This is so that an informed populace can devise plans, create and employ technologies, and use resources efficiently and effectively to force socio-economic growth (Mohammed and Kuyini, 2020). But if all citizens have access to education and equal opportunity to develop these skills, it is possible to achieve this. The Sustainable Development Goals (SDG), which were adopted by 193 nations in January 2016 and included Ghana, advocate for inclusive and high-quality education for all people and support lifelong learning because they believe that education may help people break the cycle of poverty and reduce inequality (SDG, 2017). And since the 1960s, most developing nations have improved access to basic education through a variety of free financing options after considering the benefits of education (Chanimbe and Dankwa, 2021).

In Ghana, the government efforts to reduce poverty varies across urban and rural areas, as well as the northern and southern regions of the country, undermining equal access and opportunity in Ghana (Cooke et. al., 2016). Between wealthy and poor households, as well as between Ghana's northern and southern regions, there is inequality in access to education, as seen by the decades-long growth of the school enrolment gaps between these groups (Mohammed & Kuyini, 2020). In an effort to address previous development disparities in northern Ghana, secondary education has been largely free (the government covered tuition, accommodation, and feeding) since 1960 (Duflo et al., 2017), whilst the government and guardians continued to split the cost of funding in southern Ghana.

The government implemented Free Compulsory Universal Basic Education (FCUBE) in 1996 in an effort to narrow the enrolment gap between the wealthy and the poor (Essuman, 2018). Universal primary education was the FCUBE's target goal by the year 2005. According to article 25 of the 1992 Constitution and the FCUBE proposal, only elementary and junior high school levels were eligible for free education. Due to this, enrolment rates at the primary (95%) and junior high (85%) school levels were high, but at the senior high school (SHS) level they were low (45%) (Ministry of Education, 2017). These figures suggested that five out of every ten primary school students would probably not be able to enrol in a Senior High School (SHS). The low enrolment rate at the SHS level is due to financial difficulties on the part of parents to finance their wards at this level. An average of 27.3% of pupils, for instance, chose not to enrol in secondary schools between 2013 and 2016 because of funding (Partey-Anti, 2017).

In September 2017, the Ghanaian government implemented the free senior high school policy in accordance with Article 25(1)(b) of the 1992 Constitution which states that, ‘secondary education in its different forms, including technical and vocational education, shall be made generally available and accessible to all by every appropriate means, and in particular, by the progressive introduction of free education: for equal educational opportunities for all’ in light of high non-enrolment rates at the SHS level (Chanimbe and Dankwa, 2021). This took the place of the previous National Democratic Congress (NDC) administration's Progressively Free Senior High School Education (PFSHSE) Policy. According to the PFSHSE Policy, parents were free from paying some educational expenses, including examination, sports, and library fees, as well as expenses for entertainment. In contrast, the Free SHS policy covers the cost of textbooks for key subjects, tuition and fees for admission, library, scientific centre, computer lab, examination, boarding, and utilities fees, as well as free meals for boarding students and one free meal per day for day students (Chanimbe and Dankwa, 2021).

Both the concept of free SHS and its method of implementation have generated heated discussion. However, as is the case with any change management strategy, problems are anticipated in the execution of this strategy, and media reports confirmed this theory (Owuraku-Sarpong, 2017). Others support fee-free secondary education as a method for reducing poverty and a way to provide the necessary skills and talented workforce for Ghana's socio-economic change, while some believe that it is absurd, incomprehensible, and an outright impossibility (Essuman, 2018).

Due to these anecdotal accounts, recent scholarly works have highlighted challenges in implementing the policy and discussed issues such as cost, sustainability, human resources, and politics, there remains a gap in fully comprehending the range of outcomes, especially those that are not immediately evident. Existing studies, such as Mohammed and Kuyini (2020), Chanimbe and Dankwa (2021), Addae et al. (2019), and Matey (2020), have shed light on various aspects of the policy's consequences, covering program dimensions, parental satisfaction, and economic impacts.

However, these studies primarily examine the evident consequences of the policy, leaving out potential hidden costs and less visible outcomes. This study therefore is founded on the belief that a thorough evaluation of any policy should encompass both the immediate observable results and the unforeseen repercussions that might surface in the long term. It aims to systematically investigate the unintended effects of Ghana's Free SHS policy, specifically focusing on its effects on household poverty. Through an exploration of potential indirect expenses that parents might encounter due to the policy's implementation, and provide a comprehensive understanding of its societal impact.

Literature Review

Education and Poverty in Sub-Saharan Africa

Education proves to be one of the major ways to attain sustainable development, eliminate inequality and subsequently break the cycle of poverty. An appreciable outcome of education is its capacity to stimulate the labour force, advance better technological innovation and enhance the manufacturing of better goods and services ultimately mitigating poverty and improving living standards. In Africa specifically, education is however costly, erecting an insurmountable barrier to its access for lay people (Mawunyo, et. al., 2018).

The United Nations (UN) indicated that the most effective remedy for extreme poverty is universal primary education and listed it as Millennial Development Goal (MDG) 2, which should be used to eradicate extreme poverty in Sub-Saharan Africa by 2015 (Aiglepierre & Wagner, 2013). However, it is obvious this attempt did not succeed as extreme poverty still plagues Africa. In Sub-Saharan Africa, the war against poverty has failed woefully, as the poverty rate in the region has not declined enough against its rising population. (World Bank 2020). Ghana as a country in Sub-Saharan Africa is no exemption from the plague of poverty in the region.

Holding to the belief that the surest way to fight poverty is through education (Kwagyiriba, 2021). The Ghanaian government has over the years put into place a variety of policies and initiatives aimed at raising the country's educational standards and expanding access to it. These policies include the Ghana Poverty Reduction Strategy from the period of 2002-2004, the Education Sector Policy Review Report implemented in 2002, and the Education Sector Review and the Education Strategic Plan from 2003-2015 (Mawunyo, 2018).

Senior High School in Ghana before the Free SHS Policy:

Kwegyiriba (2021) argues that in every society there should be equity in education, this is where every student has access to the materials required to learn the fundamental workplace skills of reading, writing, and simple math. This outcome measures educational success in society not the resources poured into it.

The idea of senior high school was born in 2002 as a result of the Anamuah-Mendah committee which was established to review the educational system in Ghana (Takyi et al, 2019). According to Takyi et al study, the duration of Senior High School was originally four years and later reverted to three years since 2009.

The Basic Education Certificate Examination (BECE) is the basis on which secondary school qualification is selected. In Kobina, (2021) views, students had to attain a cumulative grade of 36 or less to qualify their admittance into senior high schools. Qualified students are enroled to further advance their education in building their knowledge acquired in the junior high school. Students were accepted to pursue their chosen program of study if they met the standards and conditions of admission to various senior high schools (Adu-Gyamfi et al, 2016). In almost all schools, specifically public school, it is mandatory for students to take the Core Curriculum, which

includes English Language, Integrated Science, Mathematics, and Social Studies. In addition, each student also chooses three or four electives from among the categories of Science, Technology, Engineering, Arts (social sciences and humanities), Vocational (home economics or the visual arts), Business, and Agriculture (Adu-Gyamfi et al, 2016). The financial structure of the Senior High School in Ghana was on a shared basis with the responsibility shared between the government and parents.

Prior to the introduction of free SHS, education in Ghana was commendable with Ghana achieving near-universal access to education at the lower primary and middle school level. However, demand for secondary education had surged as a result of higher basic education completion rates (World Bank, 2021). Administrators and heads of affluent schools arbitrarily and independently set high personal cut-off grade scores and admission standards to attract only the extraordinarily good students at the expense of less brilliant and students from rural backgrounds (Babah et al, 2020).

Introduction of the Free Senior High School in Ghana:

Free SHS policy in itself although implemented in September 2017, discussion surrounding the topic has been in motion since 2008 during the run-up to the 2008 elections (Amoah, 2021). In 2017, the Ghanaian government formally announced the free SHS policy on free access to secondary education for all in response to obstacles to secondary school access (Kwegyiriba 2021). Many basic school dropouts were anticipated to benefit from the free SHS program by being able to enrol in second-cycle education. A unique feature of the policy is that it ensures that applicants from public Junior High Schools (JHS) will receive thirty percent (30%) of the openings in elite SHS schools (Armah and Mireku, 2018). This policy also significantly contributes to Ghana's Free Compulsory Universal Basic Education (FCUBE) strategy and goes a long way toward ensuring that all children have widespread access to education (Mensah 2019).

In the views of Kwegyiriba (2021) free SHS simply mean that there are no costs for tuition, books, libraries, science centres, ICT, examinations, utility bills, boarding, or meals. According to the Ministry of Education (2015) a total of 424,092 students were enroled in Senior High School for the first term of the 2017–2018 academic year, which is an increase of around 63% over the 260,210 students enroled during the previous academic year. The policy aimed to boost enrolment, enhance quality through academic achievement, and, most crucially, lessen the financial burden on parents from covering their ward’s fees (Rahaman et al, 2018).

As intended, the present free senior high school policy pays for all educational expenses. According to Ministry of Education (2017), the government was to allocate $100 million (GH400 million) into the policy to completely subsidize the cost of senior high education for the 2017–2018 school year. Not so surprisingly, serious questions have been raised about the policy's viability, especially in light of the financial ramifications and the apparent financial strain it appears to place on the nation’s budgetary space (Armah & Mireku, 2018). In light of political motives, the sustainability and viability of such an ambitious program when the economy is not ready, as well as whether the policy is sustainable in a developing nation like Ghana, which has a per capita income of roughly US$1,350, is questioned.

Moreover, the heavily demanding nature of this policy questions whether the government is intentionally willing to sacrifice all other developmental agendas for this particular policy as this could be easily said to be a scheme to gain cheap popularity (Edwards & Asamoah, 2020). The unavailability of infrastructure has led to the government finding means and ways to implement this policy, some not so feasible. A salient feature of the policy for instance is the introduction of the double-track system. Due to issues with the infrastructure, the government implemented the double track system to allow each SHS to accept more students and operate more or less like a semester-style school by rotating students in tracks (Duah et al, 2023).

The double-track system manages two student streams, the green and gold tracks. Thus, the establishment of two-semester cycle, with 41 days of sandwich class vacation included in each of the 81 days of this intervention's semesters (Adarkwah, 2022). Almost all Senior High Schools in Ghana have seen an increase in students’ population resultant of the free SHS policy, however, this

is sure to breed unsatisfactory learning results (Dual et al, 2023). With a smaller class size, teachers can choose and use a variety of teaching techniques, such as debate and role play, among others. These methodologies offer individualized attention and boost student engagement in their studies (Zainuddin & Halili, 2016). Another handicap of the free SHS policy is its potency to lure kids into truancy, students who are supposed to be on vacation may not be really distinguished from the slackers in the batch who are supposed to be in school (Martey, 2020). These fake holiday students may end up indulging in unprofitable activities leading to consequences like teenage pregnancies and other social vices.

To prevent such happenings, parents enrol their wards into extra classes programs during holidays. By attending more classes, parents can be seen spending more money on education than they did previously as their wards are required to take classes throughout the holidays (Martey, 2020). This in effect breeds even more financial burden as households who want to ensure quality education of their wards spend more on education than previously.

Household Poverty in Ghana and Effects of Free SHS on Low Income Households:

In the Ghanaian population, 56% of households are at risk of falling into poverty in the future of which rural households are the vulnerable, 37.9% against urban 10.6% (Novignon et al, 2012). In the study of Cooke et al, (2016) the disparity between urban and rural areas has increased, as urban poverty has decreased much more rapidly recently than rural poverty. In response, most governments have adopted measures with the intention to reduce poverty among individuals and households (Debrah, 2013).

Annual reports from the Ghana Statistical Service show that in most households, more girls than boys are not enroled in school and that the majority of Ghanaian households do not follow the recommended minimum balanced diet. Many people uphold the assertion that with some level of education, a better life is assured. Education generally depicts the long-term effects of human capital on societal well-being. For many average households in Ghana, the realization hits them when they have to come to terms with the fact that investing in human capital has immediate costs with long-term benefits. In actuality, a lot of low-income households struggle to cover these immediate costs that come with education. In an effort to accomplish this long-term, some households will suffer as a result of trading off current critical consumption expenses for education costs in an effort to increase their chances of escaping the intergenerational cycle of poverty (Adu-Ababio & Osei 2018).

Economic Impact of The Free SHS Policy on Ghanaian Household Expenditure

With respect to households, the goal of the Free SHS policy was to prevent fee payment for senior high education. The free SHS policy reduced the poverty rate in urban and rural households by 2.56% and 0.76% respectively. Since more people can now afford secondary school thanks to the subsidy, the decline in poverty levels suggests that this has lowered poverty rates as well (Boateng 2019). However, various indirect costs associated with education such as transportation, the opportunity cost of attending school as well as textbook costs among others may discourage the poor from accessing education despite it being tuition-free (Boateng 2019). In present Ghana, a chunk of the funds allocated to education is from the government. The Ghana Education Trust Fund, which receives inflows from the Value Added Tax (VAT), has been the major source of funding for education in Ghana (76%). This is resultant of Ghana gaining the position of a lower-middle-income country and its start of commercial oil production in 2013 (Anlimachie et al, 2020). As expected, donor support has drastically decreased following these events. Emoluments and compensation account for around 68% of the educational budget, leaving minimal funding for educational materials and infrastructure (Anlimachie et al, 2020).

In recent years, Ghana's economic growth has declined as a result of various microeconomic factors coupled with fragile fiscal and monetary policies. According to Ghana's most recent economic indicators, increasing investment in education will need creative problem-solving to identify new, long-term financing sources to be able to sustain educational policies (Anlimachie 2020).

Mohammed and Kuyini (2020) assessed the Free SHS Policy in its programme, process, and political dimensions. The evidence from his study showed that the programme and its political dimensions were emphasized to the neglect of the process dimension. Effectiveness being one of the criteria in the programme dimension was somehow stressed but equity, efficiency, and responsiveness were all ignored. His study further showed that the political dimension was the most popular focus given that the introduction of the policy itself had been positively welcomed, bolsters confidence in the political regime.

Chanimbe and Dankwa (2021) also explored the critical emergent issues and challenges facing public senior high schools as a result of the implementation of the free SHS policy. Their study unveiled that high enrolment rates culminated in teacher shortages, increased work load for existing teachers, classroom deficits, high rate of indiscipline and inadequate teaching/learning materials. The study further revealed that delay in the supply of funds also exacerbated schools' predicaments, shredding the efficacy of the policy in schools.

A study by Addae et al., (2019) explored parents' satisfaction to Ghana's free SHS policy and found out that poor and less educated parents are highly satisfied with the free SHS policy. Also, an analysis of the policy reform by Adu-Ababio and Osei (2018) on household poverty and inequality showed that the reform is contributing to lessening the burden of vulnerable households.

Matey (2020) looked at the effect of introducing the free senior high policy on the economic and social lives of parents and students respectively and found out that the introduction of the Free SHS policy relieved the financial burden of parents, especially guardians from rural settlements. However, his study further revealed that, despite the benefits of the free SHS policy to parents and students, lack of adequate stakeholder consultation saddled the implementation with challenges like delay in disbursement of funds for feeding and learning materials.

Theoretical Framework

The general system theory, underpins the study. According to Bertalanffy (1969) the general system theory is characterizes by "complexes of elements standing in interaction". It focuses on issues with a system's relationships, structures, and interconnectedness. It suggests that a social system is made up of people who work together formally. As a result, a school takes from its surroundings and then replenishes it with resources, personnel, and money (Kindyamtima, 2017). The theory encourages managers to concentrate on the function that each component of an organization serves (Hannagan, 2002). Similarly, systems like school have several components, roles, structures and relationship between its system as well as boundaries.

Additionally, Oyebabe (2010) defines a system border as the element that isolates the system from its surroundings and filters the inputs and outputs of the system. The environment has an impact on the school because it is an open system. According to the general system theory, it is important to evaluate how each component of a school interacts with the others as well as how it interacts with the surrounding environment when studying its components. Schools also respond to outside influences since they are open systems, which helps them achieve their objectives (Kindyamtima, 2017). The free senior high school policy's installation represents a shift from the surrounding community of the institution. A school, according to Pelgrum and Plomp (1993), is a complex organization made up of subsystems at several levels, including but not limited to macro (at the national level), meso (at the school), and micro (in the classroom and with the students). At various levels, a variety of actors contribute to and affect decisions. Since a system like a school is made up of various components that work together to form a whole for its functionality, the removal of even one component or input can alter how the system functions (Pelgrum & Plomp, 1993). Based on this assumption, we identify the school departments that are lacking the resources that the government had pledged to provide for the free senior high school policy while also examining the unintended consequences of how their absence affects the ongoing functioning of the schools.

According to Oyebade (2001), who relies on Hanson's Input-Process-Output-Feedback Model, the school is assessed as a process composed of five types of inputs: human resources, including students, teachers, administrators, caterers, and others; material resources, including

buildings, desks, books, equipment, and laboratories; financial resources, including money; constraints, including legal and policy requirements; and parent expectations and inputs.

It is suggested that the free senior high school policy originates from its external environment (supra system), which inputs into the school to ensure its efficiency and effectiveness, in order to test the claims of this theory and acknowledge that studying school elements must take into consideration the interactions among their components and their relationship with the external environment. Schools process materials, train people, or offer services at the processing level, but it is necessary to change the input first (Schmuch, 1977).

According to the notion, the school's operations are influenced by inputs from the external environment (thus the free senior high school policy). Therefore, we evaluate the unintended consequences of the free senior high school policy to the school in terms of human resources (such as pupils, teachers, administrators, caterers, and others), material resources (such as buildings, desks, books, equipment, and laboratories), financial resources (such as money), constraints (such as legal and policy requirements), and parental expectations and contributions (Oyebade, 2001). Since relationships, structures, and interdependencies problems in a system have an impact on the system as a whole, we count the cost by examining what, why, who, and how inputs from the outside environment (the free SHS policy) and different system components (the school and its related departments) is interfering with the school's day-to-day operations.

The study determines which inputs into the school have been inaccessible from the outside environment (free senior high school policy). The objective of this study is not just to determine whether the theory is applicable but advance the theory by examining whether implementation of the free senior high school policy have unintended consequences on the operation of schools and their internal components as well as whether or not Free SHS has impacted household poverty.

Methods

The study conducted a border survey from May to June 2024, using a quantitative technique with structured interviews to gather primary data from a purposive sample of 130 parents and 8 schools, including both private and governmental institutions in the northern belt (Upper West and Northern Regions), middle belt (Ashanti and Bono East Regions) and southern belt (Accra and Cape coast). The study sought to produce unbiased data and numerical values by utilizing both descriptive and inferential statistics to quantify the impact of unintended consequences on household poverty, particularly in relation to savings.

The study employed a cross-sectional design to examine the effects of these unexpected outcomes on household poverty, necessitating the use of numerical data and a quantitative approach. The primary objective of the Free SHS policy is to alleviate the financial burden on parents by eliminating the exorbitant expenses involved with educating their children and to eliminate any financial obstacles to education. We recruited participants who were able to effectively represent their schools and provide us with information regarding the unintended repercussions encountered during the implementation of the Free SHS policy within the specific context of their schools and the kids involved. The study collected data on the amount saved as a result of the FSHS policy, and conducted a multiple linear regression using the amount saved as dependent on the unintended consequences of the policy.

Results and Discussion

The study surveyed 138 respondents in Ghana across three regional belts as shown in the figure below. The regional belt included the Northern, Middle, and Southern belt, with two selected regions making up these belts. The Southern belt (Accra and Cape Coast regions) constituted 34.78%, the Middle belt (Ashanti and Bono East regions) constituted 33.33% and the Northern belt (Northern and Upper West regions) constituted 31.88%. The distribution reflects the population growth as Ashanti and Accra have the highest populations in Ghana.

Table 1 below, thoroughly summarizes the respondents' demographic characteristics, encompassing age distribution, educational attainment, employment source, and number of children.

The age distribution of respondents indicates that the largest proportion (48.55%) falls within the 40-50 years age group, making it the most prevalent category. The subsequent most significant demographics consist of individuals aged 51-61 years, accounting for 25.36% of the study sample, followed by those aged 29-39 years, making up 20.29%. The age range of 18-28 years represents 2.17% of the respondents, and individuals aged 62 and above makeup 3.62%.

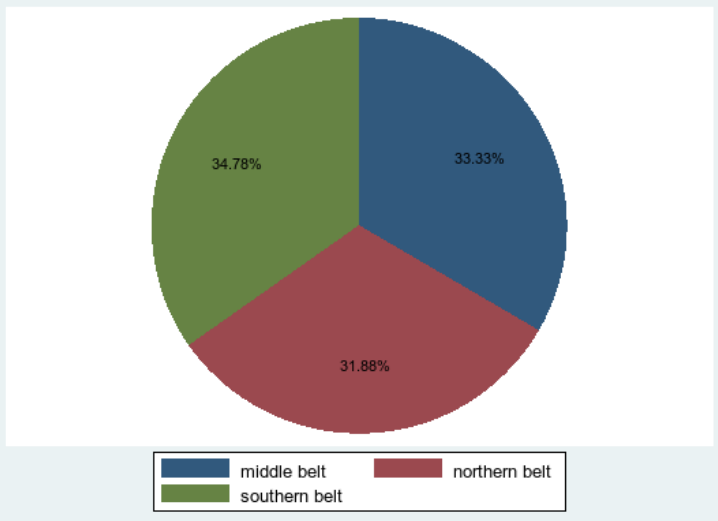

Figure 1. Regional Distribution of Respondents

Source: Authors (2024)

Among the respondents, the majority, 31.88% of the total sample, had achieved a secondary education level, followed by individuals with a tertiary degree, accounting for 23.91% of the total, those with a basic education, make up 21.01%. The percentage of respondents without formal education is 13.04%, while those with non-formal education account for 9.42%. Only 0.72% of the respondents have post-tertiary education.

Table 1. Summary statistics of Categorical Variables

	Category	Frequency	Percentage
Age	18 – 28	3	2.17
	29 – 39	28	20.29
	40 – 50	67	48.55
	51 – 61	35	25.36
	62	5	3.62
Educational Level	Basic	29	21.01
	No Education	18	13.04
	Non-formal Education	13	9.42
	Post Tertiary	1	0.72
	Secondary	44	31.88
	Tertiary	33	23.91
Source	Others	16	11.59
of Employment	Private Sector Worker	21	15.22
	Public Sector Worker	21	15.22
	Self-employed	80	57.97
Number of Children	1 – 3	64	46.38
	4 – 6	66	47.83
	7	8	5.8

Source: Authors (2024)

According to the employment data source, a substantial majority (57.97%) of respondents are engaged in self-employment. The respondents are evenly divided between private-sector and public-sector workers, with each group accounting for 15.22% of the total. The remaining 11.59% are classified as 'Others.

Most of the responders have between 1 and 6 children. More precisely, 46.38% of the population have between 1 and 3 children, whilst 47.83% have between 4 and 6 children. A smaller subset, comprising 5.80% of the total, consists of families with 7 or more children.

Table 2 shows the quantity of children who are benefiting from the program, the level of awareness about the programme, the perceived benefits for parents, and the financial savings arising from the policy.

Table 2. Summary Statistics of Information on Free SHS

	Frequency	Percentage
Number of Children benefiting from Free SHS		
1	94	68.61
2	37	27.01
3	6	4.38
Knowledge on Free SHS		
Yes	135	0.98
No	3	2.17
Helpfulness of the Policy to Parents		
Very Satisfied	27	19.57
Satisfied	29	21.01
Neutral	32	23.19
Dissatisfied	23	16.67
Very Dissatisfied	27	19.57
Been able to save because of free SHS policy		
Yes	53	38.41
No	85	61.59

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
Among saved per month	138	13.24	5.07	1	24

Source: Authors (2024)

The results unveiled that the distribution of children benefiting from the Free SHS programme indicates that the largest proportion of respondents, specifically 68.61%, reported that they have one child who is benefiting from the programme. Also, 27.01% of individuals have two children who are receiving benefits, while a lesser percentage, 4.38%, have three children who are receiving benefits. These findings indicate that the programme predominantly supports families with one or two children who are currently enroled in high school.

The study reveals that majority (97.83%) of parents are aware of the Free SHS policy, however, about 36.24% found the policy to be less helpful. 23.19% of parents are indifferent to the Free SHS policy with 40.58% of parents found the policy helpful. Most parents are unable to save from benefiting from Free SHS as 61.59% revealed not being able to save. Among parents who were able to save, on the average saved Gh13.243 in a month from benefiting from Free SHS.

3.1 Identifying Unintended Consequences

The study investigates the unintended consequences of the Free SHS policy. Parents confirmed among other things that the Free SHS policy brought some consequences. Parents reported that Additional Financial Cost (22%), Long Stay at home (14%), Low Quality and Poor Academic Performance (14%), Inadequate Infrastructure, Overcrowded Classrooms and constraints on school resources (14), Poor Feeding and Starvation (11%), Inadequate Teaching and Learning Materials (7%) and High Teenage Pregnancy (6%) are among the unintended costs of the Free SHS Policy. However, few parents revealed that the policy had reduced the cost of education and was helpful whereas others were indifferent and normal (3%) as shown in Figure 2 below. These findings mean that many parents still spend much on their kid education despite the free SHS programme. The outcome aligns with Novignon et al, 2012, and Cooke et al, (2016) who found that parents in rural Ghana stand the risk of falling below the poverty line as a result of spending much on their children education due to the irregularities of educational programmes.

Notwithstanding the implementation of the Free SHS programme, 22% of parents indicated that they experienced additional financial obligations. The additional financial burden can strain

household finances, particularly for those with low incomes, potentially worsening poverty levels. Approximately 14% of parents said that their children experience extended periods at home due to the introduction of the double track system which fuels the long stay of children at home. Consequently, to mitigate the long stay at home as a result of the double track system, parents (37%) engaged their wards in extra classes. Among these parents, the majority (18%) only engaged their wards in extra classes while at home whereas other parents (12%) engaged their wards in extra classes when they were in school. Significant number of parents (7%) engaged their ward in extra classes in both school and at home. Additionally, 63% of parents did not engage in extra classes, as shown in Appendix A. The leading reason why parent engaged their wards in extra classes, particularly at home was because of the double track system which made the children stayed home for months. This can have a significant influence on their educational advancement and future employment opportunities, thereby perpetuating the cycle of poverty within families.

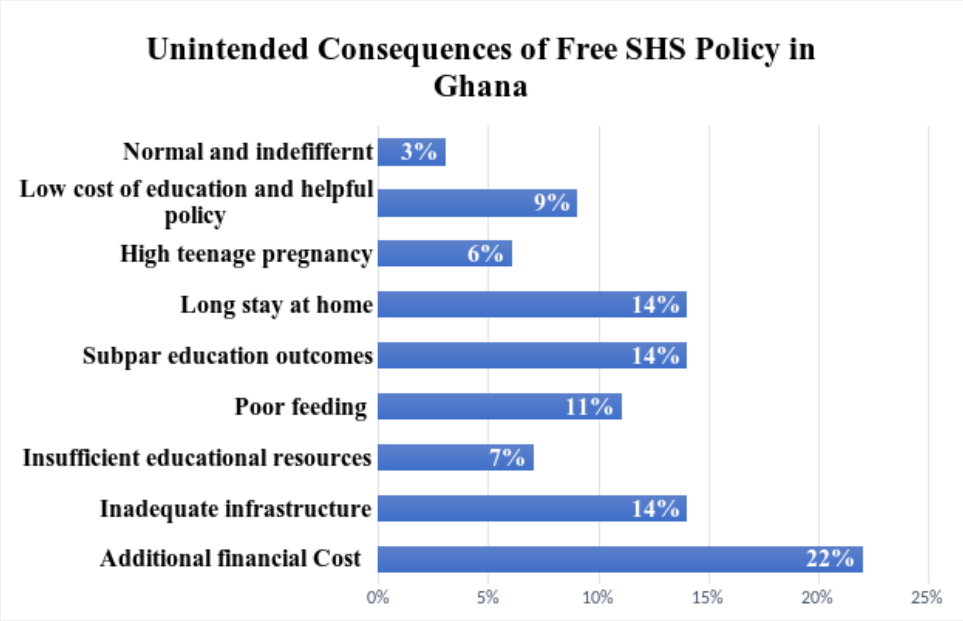

Figure 2. Unintended Consequences of free SHS Policy in Ghana

Source: Authors (2024)

An additional 14% of parents voiced apprehensions regarding the quality of education and academic performance of students. Lack of educational accomplishments might restrict students' future prospects, diminishing their likelihood of breaking free from poverty. Silva-Laya et al. (2020) discovered that substandard education hampers students' capacity to aim for a more promising future. The senior high school (SHS) level plays a vital role in deciding students' progression to university/tertiary education, which subsequently improves their employability in Ghana. This progress enables them to receive wages that can enhance their family's financial resources. In contrast, if students obtain education of poor quality at the secondary school level, their likelihood of pursuing higher education diminishes, resulting in restricted job prospects. As a result, these students may face difficulties in generating enough revenue to cover their school costs, hence worsening the poverty rates in their families.

The study further unveiled that 11% of parents reported poor feeding and hunger is very alarming. A study conducted by Acharya, et al (2019) also revealed a significant negative relationship between malnutrition throughout middle childhood and academic performance in maths, reading, and educational achievement. Malnutrition has a significant impact on the health and cognitive development of pupils, which hinders their capacity to learn and achieve academic success, hence contributing to the continuation of poverty within households.

Insufficient teaching and learning resources, as indicated by 7% of parents, can have a detrimental impact on the quality of education. Edessa (2017) found that a lack of adequate teaching materials had a detrimental effect on graduates' skills, resulting in a 71% decrease in their

performance. Inadequate resources might impede students' comprehension of topics, resulting in subpar academic achievements and constraining their prospects.

According to the data, 6% of parents reported a rise in teenage pregnancies, which has important consequences for both adolescent moms and their families. In the views of McDermott et al (2021) income level of families and teenage pregnancies are directly related. Adolescent pregnancy frequently interrupts schooling and might result in enduring economic difficulties, thereby perpetuating poverty.

The ANOVA analysis of the monthly savings resulting from the Free Senior High School (FSHS) policy indicates statistically significant findings. The model's F-statistic is 5.18 with a p-value of 0.000, showing that the independent variables together explain a substantial amount of the variation in the dependent variable. The R-squared value of 0.267 indicates that around 26.7% of the variability in the monthly savings amount can be attributed to the unexpected effects of the FSHS policy and the perception of the school list as unnecessary.

The category “Unintended consequences of FSHS” has a sum of squares (SS) of 776.301 with 8 degrees of freedom (DF), resulting in a mean square (MS) of 97.038. The F-statistic for this category is 4.82, and the p-value is 0.000. This outcome suggests that the unforeseen repercussions of the FSHS policy have a substantial impact on the monthly savings amount. The small p-value supports the presence of a statistically significant effect, indicating that the different unintended consequences within this category are important factors in determining family savings.

Table 3. ANOVA Analysis

Dependent Variable: Amont saved per month due to FSHS

Source	Partial SS	DF	MS	F	Prob>F
Model	939.6	9	104.4	5.18	0
Unintended consequences of FSHS	776.3	8	97.04	4.82	0
Unnecessary school list	161.85	1	161.85	8.03	0.01
Residual	2579.03	128	20.15		
Total	3518.62	137	25.68		
R-Square	0.27			Observation	138
Adj R-Square	0.22			Root MSE	4.49

Source: Authors (2024)

The variable “Unnecessary school list” has a partial sum of squares (SS) of 161.845 with 1 degree of freedom (DF), resulting in a mean square (MS) of 161.845. The F-statistic is 8.03, and the p-value is 0.005. This substantial finding suggests that households who consider the school list to be superfluous save significantly different amounts compared to those who do not have this belief. The significant F-statistic and small p-value provide evidence that this variable plays a crucial role in determining household savings.

The residual sum of squares (SS) is 2579.027 with 128 degrees of freedom (DF), and the total sum of squares is 3518.623 with 137 degrees of freedom (DF). The residual mean square (MS) is 20.149. The root mean square error (Root MSE) is 4.489, which quantifies the standard deviation of the residuals or the average distance between the observed values and the projected values of the model.

3.2 Effect on Household Poverty

Table 4 presents the effect of various unintended consequences of the Free Senior High School (FSHS) policy on the amount households save per month. The dependent variable is the monthly savings amount, while the independent variables include different unintended consequences and whether a school list is deemed unnecessary.

The findings indicate that households facing high rates of teenage pregnancy save an average of GH¢ 3.65 ($ 0.23) less per month compared to those who incur increased expenses due to the Free Senior High School (FSHS) program. This difference is statistically significant at a 10% significance level. Diaz, and Fiel (2016) also revealed that teenage pregnancy decreased the income levels of households. Adolescent pregnancy can hinder the educational progress of young mothers, resulting in reduced income prospects and increased reliance on their families. This may necessitate

the reallocation of household funds to cover the immediate and long-term expenses related to teenage pregnancy, consequently diminishing the amount of money available for savings.

The lack of teaching and learning resources significantly affects households' savings, as indicated by a coefficient of -8.125 (p-value = 0.000). This coefficient suggests that these households save GH¢ 8.13 ($ 0.52) less per month because of insufficient educational resources. Also, the study demonstrates a substantial inverse relationship between subpar academic performance and monthly savings, indicated by a coefficient of -2.698 (p-value = 0.040). This suggests that households with inadequate education save GH¢ 2.70 ($ 0.17) less each month. Moreover, the coefficient for reduced cost of schooling is -3.516 (p-value = 0.019), indicating that households save GH¢ 3.52 ($ 0.23) less per month referenced to additional financial burden despite the decrease in educational expenses. This substantial adverse outcome implies that household savings may be influenced by additional financial obligations or variables. The statistically significant findings emphasize the strong negative impact of insufficient educational resources and below-average academic performance on household savings. These go in line with the findings of Ihori et al (2017) and Kubota (2016) as they argue that households spend much of their income on private teaching and supplementary in Japan and other Asian countries.

Table 4. Effect of Unintended Consequences on Household Savings

Amount saved per month	Coefficient	Standard Error	t-value	p-value	[95% Confident Interval]	
Unintended Consequences Reference: (additional cost)						
High Teenage Pregnancy	-3.65	2	-1.83	0.07	-7.6	0.3
Inadequate Infrastructure	-1.64	1.3	-1.26	0.21	-4.22	0.93
Inadequate Teaching and Learning Materials	-8.13	1.63	-5	0	-11.34	-4.91
Long stay at home	-5.12	1.28	-4	0	-7.66	-2.59
Low Quality and Poor Academic Performance	-2.7	1.3	-2.08	0.04	-5.27	-0.13
Normal and indifferent	-3.72	2.72	-1.37	0.17	-9.1	1.66
Poor Feeding and Starvation	-5.49	1.41	-3.91	0	-8.27	-2.71
Reduced the Cost of Education	-3.52	1.48	-2.37	0.02	-6.45	-0.58
Unnecessary School List Reference: (No)						
Yes	-2.69	0.95	-2.83	0.01	-4.56	-0.81
Constant	16.96	0.82	20.68	0	15.34	18.59
Mean dependent var	13.24	SD dependent var				5.07
R-squared	0.27	Number of obs				138
F-test	5.18	Prob > F				0
Akaike crit. (AIC)	815.68	Bayesian crit. (BIC)				844.95

Source: Authors (2024)

Households incur additional expenses on supplementary educational materials, such as textbooks, stationery, and digital resources, to make up for the insufficient teaching and learning resources provided by schools. Also, parents may opt for private tutoring or extra classes to ensure their children receive a high-quality education, increasing household expenditures, and hence reducing savings.

The negative coefficient of -5.123 (with a p-value of less than 0.001) suggests that households save GH¢ 5.12 ($ 0.33) less per month when students have extended periods of staying at home compared to additional financial costs. The obtained result exhibits statistical significance, indicating a substantial adverse impact on household savings. Tleuken et al (2021) confirm that longer stays at home increase household expenditure. Longer durations spent at home result in elevated consumption of food, energy, water, and other utilities, hence augmenting household expenditures and diminishing the surplus amount that can be allocated toward savings. To facilitate remote study, households may experience supplementary expenses for internet access and digital gadgets, such as laptops or tablets.

In addition, parents may need to allocate funds for private tutoring or supplementary courses to ensure their children maintain academic progress, hence increasing household expenditures.

Households that suffer from poor feeding and starvation save GH¢ 5.49 ($ 0.35) less per month compared to the extra financial burden of FSHS, as evidenced by a statistically significant negative coefficient of -5.492 (p-value = 0.000). This outcome emphasizes a significant detrimental effect on savings when individuals experience insufficient nourishment. Millimet et al, (2018) support that households with food insecurity may save less. Thus, Households with inadequate nutrition may have to invest a substantial percentage of their income towards food in order to mitigate hunger, resulting in diminished savings. Moreover, the cost of food in Ghana can fluctuate significantly, and households experiencing food insecurity may be compelled to allocate more funds during periods of elevated food prices, so reducing their capacity to save.

Households that perceive the school list as useless save GH¢ 2.685 ($ 0.17) less per month compared to other households (p-value = 0.005). This statistically significant finding demonstrates a considerable adverse impact on home savings, emphasizing the financial consequences of considering the school list as superfluous. Households that perceive the school list as ineffective may fail to prioritize or allocate money properly for necessary educational supplies, resulting in unforeseen expenses or wastage, ultimately diminishing savings. Insufficient planning might lead to impulsive purchases or increased spending on substitute items, which in turn hinders their capacity to save. Viewing the school list as superfluous can also result in inadequate financial planning for educational expenses, resulting in unforeseen financial burdens for households. Moreover, households might allocate a greater amount of their budget towards alternative solutions or materials, leading to higher expenses and diminished savings.

3.3 Parents Recommendations

As shown in Appendix C, when parents were asked the kind of recommendation to government, most parents (22%) suggest investing in infrastructure development and constructing additional schools to avoid implementing the double-track system. Additional noteworthy suggestions encompass the imperative for enhanced sustainability policies, increased allocation of resources to the Free SHS program, and the annulment of such policy, with each proposal garnering a 14% endorsement. In addition, 12% of parents support increased parental and private sector participation in policy talks, while 10% recommend that the government prioritize teacher motivation and extracurricular activities. A smaller proportion of parents, namely 8%, suggest enhancements in feeding and teaching approaches, while 6% emphasize that the policy should remain free from political influence.

Conclusion

The study reveals that Ghana's Free SHS program has negative consequences for parents, including extra financial costs (administration cost, accommodation cost, unofficial cost, extra feeding cost and unnecessary dormitory fees), extended stay-at-home periods, poor academic performance, inadequate infrastructure, overcrowded classrooms, inadequate meal provision, lack of teaching materials, and an increase in teenage pregnancies. Parents often enrol their children in supplementary courses to mitigate these issues. The study supports previous research suggesting that educational disparities can worsen poverty, particularly in rural areas. Table 4 shows that the Free Senior High School policy has unintended consequences on household savings. High teenage pregnancy rates, inadequate educational materials, poor academic performance, extended stay-at-home periods, inadequate nutrition, and famine have all reduced monthly savings. The school list is considered superfluous, resulting in substantial negative impacts.

The study recommends a review of the school list criteria to verify their indispensability and cost-efficiency, hence reducing superfluous costs for parents. Interact with parents, teachers, and community leaders to collect input and consistently enhance the Free SHS program according to their experiences and requirements. Develop a strong monitoring and evaluation structure to routinely evaluate the impact of the Free SHS program, utilising data to make well-informed modifications to policies and practices.

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Appendices

Appendix A. Extra classes

Are you engaging your child in any extra classes	Percent
Yes	36.20%
No	63.80%
Where does the extra classes take place	
Home	18.10%
School	12.30%
Both Home and School	6.50%
None	63.00%

Appendix B. Post - Estimation Test

Result Heteroskedasticity Test

H_0 Constant Variance

Chi2 (1) = 2.58

Pro>chi2 = 0.108

Multicollinearity

Variable	Vif	1/vif
Unintended consequences		
2	*1.14*	*0.88*
3	*1.38*	*0.73*
4	*1.22*	*0.82*
5	*1.39*	*0.72*
6	*1.43*	*0.7*
7	*1.08*	*0.93*
8	*1.31*	*0.76*
9	*1.28*	*0.78*
2. schoolistunecessary	*1.07*	*0.93*
Mean vif	*1.25*	

Result of Omitted Variable Test

H_0 No omitted Variable

F (3,125) = 1.12

Pro>chi2 = 0. 344

Result of Misspecification Test

saved	coefficient	Std.err	t	p>|t|
_hat	0.592	1.185	0.50	0.618
_hatsq	0.016	0.046	0.35	0.730
_cons	2.508	7.492	0.33	0.738

Appendix C. Parents Recommendation

What Recommendations would you like to give to the Government	Percent
Build infrastructure and schools to avoid double-track	22%
Resources should be allocated to the FSHS Policy	14%
Better sustainability policies must be employed	14%
Better Feeding & teaching methodology	8%
The Policy must not be politicized	6%
Encourage parental and private sector involvement	12%
Government should motivate teachers and support extracurriculars	10%
Free SHS Policy should be cancelled	14%