HOUSEHOLD AND COMMUNITY LEVEL SURVEY OF THE DETERMINANTS OF DROP OUT AMONGST PUBLIC PRIMARY SCHOOL PUPILS IN KINANGO DISTRICT, KENYA.

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Abstract:
The authors sought to find out determinants of dropping out of pupils from public primary schools at the level of household and the community. A sample of 90 pupils drawn randomly from 14public schools in the area containing pupils who had dropped before and those who have never dropped and also 42 of their parents randomly drawn. A set of Predicting variables were drawn from student characteristics, parental characteristics, household characteristics and also community characteristics. The outcome variable "dropping" was treated as binary. Discriminant analysis, Correlational and logistic regression methods were used to predict the determinants of probability of pupils dropping out of school. Poverty which was represented by proxy variable household expenditure, gender of the pupil, education of the mother and school expenditures added significantly to the model holding other factors constant. The logistic regression model was statistically significant, at F(8,121) =322.38, P<.0005, Pseudo R^2= .677.Explaining 67.7% of the variance in dropping out. However age of the pupils and household size added insignificantly against the available literature.
Keywords: Dropouts, determinants, pupils, Logistics regression, household, community.

1.0.Introduction

Free primary education in Kenya has witnessed tremendous successes especially in increasing access to education through enrolments. But the policy is witnessing enormous challenges in its implementation. The ancillary costs of education are increasing opportunity cost for schooling. Primary schools are perceived to be offering poor quality education despite the government efforts to ensure accessibility and equity in employing more teachers and reducing direct costs incurred by parents in their children's' education. There are a number of factors which constrain access to, participation and completion of primary education in Kenya including private costs of education, demand for child labor, perceived poor quality of education in public schools,distance to schools from households, grade repetition, dropping out, early marriages or pregnancy parental attitudes towards public primary education and poverty. Lewin (2007) in her study on accessibility to education in Africa, sets out seven zones of exclusion but this study will focus on zone 2 and 3 i.e. Zone 2: children who enter primary school, but who drop out before completing the primary cycle; Zone 3: children who enter primary school and are enrolled but are 'at risk' of dropping out before completion as a result of irregular attendance, low achievement, and silent exclusion from worthwhile learning. Socio-economic variables influence the dropout of pupils directly by influencing the pupil's decision to drop from school, or that of the parent to withdraw the pupil from schooling. The variables also indirectly influence the drop out of pupils by negatively affecting their education achievements in school and in turn influences dropout of pupils.

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Determining drop outs in a free education environment is not an easy task since one is liable to making errors like type 1 and Type 2 errors in research. This is possible if one is using red flags which are poorly monitored. This is because most students who drop out from one public school may report back after some years or may enroll in another school or may become a private candidate.

2.0. Background Literature

Students with multiple risk factors have a higher likelihood of high school dropout. High-risk factors associated with dropout are poor academic performance, repetition of one or more grades, low socioeconomic backgrounds, English as a second language, pregnancy, and frequent absenteeism/truancy Baker Sigmon & Nugent (2001). The community plays a pivotal role for teenage mothers struggling with identity and the demands of motherhood. There are multiple community risk factors for adolescents such as the availability of drugs and firearms, delinquency, violence, media, and community norms favorable toward drug use and crime. Students at risk of living in communities and being involved in drugs, violence, and high mobility have an increased risk of pregnancy. By getting the needed support, young mothers will further decrease or eliminate thoughts of dropout, multiple pregnancies, and stressful life events (Lead beater, 1996).

2.1. Household Poverty:

There is a notion that being poor lowers present discounted value of schooling relative to work, because of free market economic forces and the social nature of poor people i.e. they are impatient and historical evidences available always portray a child of a poor person as anon-beneficiary of returns to education. Most poor people are also not well educated and domestic borrowing choices are geared towards present consumption against investment on the future, like children's education (Baland & Robinson, 2010). Market failures contribute a lot to household constraints. If present discounted value of education is higher than the returns from child labor, parents will borrow against child's future income to finance child current education. High costs of living will present an opportunity costs between meeting the costs of education verses meeting the escalating costs of consumables like food, and rent and Medical bills.(Drusilla,2009).In India, most parents borrow to meet present needs only to end up bonding their children as a tradeoff. This according to Baland and Robinson (2010), is a form of transferring income from the future to the present .According to Ranjan (2001), this can be reduced by empowering parents to have assets like land with title deeds which they can use as collateral to obtain credit. Therefore poverty appears to influence demand for schooling not because it affects inability of a household too pay school fees and other costs associated with education, but also because it is associated with high opportunity cost for schooling.

2.2. Parenting Styles

Slicker and Kim (1996) examined parenting styles and family types for adolescent individuals. The study discussed four parenting styles - authoritative, authoritarian, neglectful, and indulgent. Authoritative parents increase resiliency of children by providing them with cohesive and adaptable environments. Heaven and Newbury (2004) examined the relationship between parental characteristics and adolescents 'school attitudes'. Parental characteristics were the primary predictor of student's academic success. Students' with strong academic performance reported their mothers as having higher levels of warmth and affection Adolescents with neglectful or disengaged mothers were more likely to have increased delinquent problems, higher depression, and increased sexual involvement with their first sexual experience at a younger age.

There were mixed results with students reporting indulgent and authoritarian parenting environments. Students with authoritarian parents were more likely to misbehave in school and engage in drug use. The majority of high-risk youth live in neighborhoods with high incidents of crime; teen pregnancy, dropout, and welfare (Blechman, 1992).Youth who are subjected to high-risk circumstances have less coping skills and opportunities. A study by National Campaign to Prevent Teen Pregnancy (2004) in America found out that parents had a great influence of their children than their peers. Parents with open communication with reasonable presence at home were seen as sign of care and concern by the children. Findings revealed that youth imitated and modeled their parent's language and behavior, which further supported or damaged the decision to increase, decrease, or stop sexual activity. The same study found out that children from low SES socialize more with their peers than those from higher SES. There is a possibility that in the absence of parental guidance, these peers will act as role models for the children. Lehr (2004) argued that the presence and accumulation of family stressors were associated with increased rates of dropout due to vague expectations of parents from their children.

2.3. Community Involvement

Community involvement and after-school activities were negatively related to teen pregnancy (Bickel, Weaver, Williams, & Lange, 1997). As community involvement and after-school activity decreased, the pregnancy rates increased. School dropout may be a result of negative or the lack of community involvement. Individuals who feel disconnected from their community have fewer outlets to discuss their emotions and dilemmas. Community involvement may serve as a protective factor for adolescents .Individuals involved in the community are less likely to engage in problematic behaviors and dropping out of high school. Community involvement can increase family unity and individuals' educational/career aspirations (Kirby, 2002).In most communities, whether rural or urban, Dropouts are more likely to associate themselves with peers having lower academic aspirations (Lehr & Thompson, 2004). The patterns and process of school dropout are likely to be substantially different for boys and girls. Different social norms, values, beliefs, traditions and practices have strong discriminatory elements mitigating against girl's educational persistence and performance. There are an increasing number of locations where boys drop out more frequently, especially where there is income earning opportunities. In addition, there may be a gendered dimension of intra-household resource allocation (Colclough et al, 2000)

2.4. Family Income

In developing countries, children's schooling competes with other commodities for scarce household resources, which makes access to schooling positively associated with household wealth Patrinos & Psacharopoulos,(1997). Hunt (2008) provides a brief review of relevant literature on income shocks. Evidence from India suggests that poor families withdraw their children from school when faced with unexpected losses in crop income (Jacoby & Skoufias, 1997). This appears to be related, at least in part, to the need for child labor to supplement family income, an aspect that will be discussed later, rather than the direct private cost of schooling. Income fluctuations affect ability to afford school costs, especially during the hungry season when food prices are high and child labor demands low and automatically indirect private costs of education decline. Poor planned policies for free mass education may unintentionally affect rural live hoods by forcing children to decide between education and work (Lewin 2007). Seasons affect costs to education. There are seasons when families have enough food and surplus of produce, but market prices are low and as such making value out of the surplus is at times difficult. There are cases when the harvest is poor

due to climate change, floods, disease outbreak or drought and at this time direct private costs of education are hit hard (create,2010).

Obonyo (2014), in his study on determinants of dropping out of public primary schools in Kilifi county, Kenya, found out that family income greatly affects demand for education. The burden of feeding family will present a high opportunity cost for schooling and education becomes a dispensable expense. Handa(1996) notes that estimation of household income is less truly revealed in surveys than expenditure is. In order to correct for this error, it may be advisable to use household expenditure as a proxy for income. Basu a& Van (1998) state a hypothesis based on the idea of parental altruism that: "A family will send the children to the labor market only if the income from the non-child labor sources drop very low". This suggests that poverty is the main cause of child withdrawal from school into child labor Depending on the perception of the community with regards to utilization of education, there is normally a high opportunity cost associated with tradeoff between domestic labor and education demand even three times higher than the direct costs of school. This opportunity cost is normally high for girls due to their natural cultural inclination to domestic chores.

2.5. Parental Occupation

It has been found that family occupation (main sources of household income) has an impact on schooling. Many children especially those in rural areas have a lot of activities lined for them before they go to school and after coming back from school. Those from agricultural zones have their timetables at times clashing with important dates like planting and harvesting. Migrant communities and pastoralists pull children out of school leading to more drop out. School timetables can be adjusted to make sure the migrant periods find children at home after school closure or mobile schools be the best alternative for this(Hardely,2010).In some communities in Kenya, where parent brew local alcohol, after school children normally tend to help the parents in selling the beer to clients especially if the parent is busy. This normally presents an opportunity for children to secretly adventure learning to drink. This makes girls even more vulnerable for gendered violence from the same customers who are drinking. It is at this point where unexpected pregnancies and earlier marriages thrives (Obonyo,2014)..

2.6. Indirect Private Costs of Education

Despite the Kenyan government not remaining committal in the policy on uniforms in schools, Cost of uniform deters many students from participating in schooling and majority even drop out due to stigma attached to the lack of uniform amongst learners. Besides, many schools continue to demand that the pupils come to school in full uniform. Other non-fee costs of education are examination fees for continuous assessment tests and in some schools lunch fee and remedial teaching fee. But these cost differ from school to school.(Obonyo,2014)

2.7. Parental Education

Another important factor that is often related to drop out is parental education level, Coleman(2008). Parents with low levels of education are more likely to have children who do not attend school. If they do, they tend to drop out in greater numbers and engage in more income generating activities than children of parents with high levels of education (Duryea, 2003). In his study of this issue in Botswana, Chernichovsky (1985) found the educational level of the head of the household to have the greatest impact on whether or not a child was enrolled in school. There is also a gendered dimension to parental level of education. For girls, the risk of becoming pregnant, and

hence potentially dropping out of school, declines significantly as the educational attainment of the household head increases (Grant and Hallman,2006).

According to Ashraf and Popola, dropping out of school reduces to as low as 2 percent in the households members who are graduates, 4 percent in those with a secondary and 9 percent in those with primary school education as the highest education in the family. Those with lower educational levels or illiterate have 10 percent of their children as dropout from schools. This is because they are aware of their influence over their children's academic performance in schools. Although high parental education is usually associated with high levels of household demand for education, negative parental experiences with education can lower demand for education. Mother's education comes with some level of empowerment in decision making as well as participation in income generating activities like women groups (Epstein,1987).Health of the children is essential for schooling and that's why mother's education is perhaps the single most important determinant of family health and nutrition Student abilities, parental education and family wealth all contribute to the skills and knowledge accumulated, or to human capital formation.(MacMahon, 1977).

2.8. Parental Perceptions

As schooling expands unemployment moves up to influence the more highly educated graduates. The rapid expansion of primary schooling greatly increases the supply of primary school graduates, also increasing their unemployment rate…This increases the economic pay-off of attending secondary school. If the government responds to demands for more secondary places, eventually the increased supply of secondary graduates… creates [further] unemployment. Thus increases the demand for university expansion and results in university unemployed" (Carnoy, 1975; as cited in Asagwara, 1995).With a low quality education, the returns to free primary education in Kenya are minimal. Those with a primary education are not any better off than those who did not attend school at all **(**Villet,2003 cited in King, 2005**).**The Perceived quality of education and the ability of children to make progress through the schooling system can affect the priority placed on schooling within the household. It is also evident that children whose parents have received some sort of schooling are more likely themselves to attend school for longer. In particular, a mother's education level often influences length of access for girls. For example in rural Pakistan, girls whose mothers have some sort of formal schooling were less likely to drop out from school (Lloyd, Mete and Grant, 2009).

2.9. Family Stability and Dysfunctional

According to Bertrand (1962) students are major casualties when families undergo dysfunctional. They tend to fit in with the family system than with the school. This is because they see most teachers as not emphatic to their plight as most teachers don't even know about the issue. These findings prove useful to my study in trying to find out to what extend the family influence pupils in dropping out. Family dysfunctional affects boys more than it does to girls placing males at risk and overburdened in the household. Most common in dysfunctional families is hostility and negative criticisms of children. Parents rarely give children the support and encouragement they require on academic issues as a result they get overwhelmed with self-esteem issues. (Valeria Mc Gamett,2007).Children especially girls who faced with harsh reality of death of the parent are more likely to experience psychological and financial limitations such as depression and financial hardships. This makes them vulnerable in accepting hand-outs from people or peers in exchange of sexual favors. Most of those taken over by relatives find it hard to adjust and most of them end up even being abused by the same guardians who took over parental responsibility (Blum&Rinehart,2000).

Extreme poverty, homelessness, hunger, mistreatment by foster parents, gender based violence by parents will act as push factors for children from homes to the streets or some seek refuge through earlier marriages or prostitution. He further observed that low SES provided multiple risk factors for children. The neighborhood provides values and beliefs to children about education. Neighborhoods with many drop out children will most likely provide negative role models to the children and that will act as a precursor whenever a slightest opportunity for dropping out arises for children (Gonzales 2003).

2.10. Family decision model

The household decision model revolves round who in a family makes decisions with regard to education and the employment of children. In most households, children have no bargaining power to choose or deny some responsibilities assigned to them by the parents. In such cases normally parents make decisions that serve their interests. To constrain the parental dominance in decision making over children, the state normally makes legislations to safeguard rights and freedoms of the children. Parental Perceptions of children as assets begin from birth when parents plan on how many children they can give birth to. Uneducated parents are normally caught up in the tradeoff between quality and quantity of children and as such they choose large family so as to diversify the risk normally associated with upbringing by educating some and putting some into child labor (Drusilla.K, 2001).

2.11. Household   Structure and Size

Within the household structure and size, available literature indicates a number of factors determine choices for children schooling. This include size of the family, household head and gender, presence or absence of parents, household head characteristics, the size of the household with special interest on the number of economically active population. Lloyd and Blanc (1996) analyzed the effects of the gender of the head of household on children's schooling in seven countries in sub-Saharan Africa. They found that despite higher rates of poverty, children in female-headed households were more likely to enroll and complete at least grade four than were children in male-headed households. Household size affects the time per person for household production activity. Since this is dependent on the structure of the household, the proportion of children and the proportion of adults will definitely affect the time cost of involvement in household production activities. It is therefore necessary to categorize household composition since this affects the opportunity cost of time indirectly through the demographic composition of each household. Rosenzwerg & Wolpin (1999) found out a tradeoff between family size and education attainment.

Children in large families in both developing and developed countries have less schooling, are poorly nourished and perform poorly in achievements (Patrimos & Psaccharopoulous,1997) .Closely spaced children receive least investment in education whereas schooling for first-borns may be sacrificed, last born in most cases get good education. (Powel & Steelman 1993) quoted in Drusilla, K .(2001).Contradictory findings emerge in Botswana by Chernichovsky (1985) studying the impact of schooling choices found out that family size raises education attainment as many children are seen as assets to one another and their labor can be seen as complimentary input to household capital. In Kenya, most families with many children often find it difficult to educate them especially if they are closely spaced in birth. Sex trade preference will be applied where boys will be supported to proceed with education as girls are quietly allowed to get into child labor or get married off to ease the burden of the costs of education on the parents (Obonyo,2014).Religion plays some degree of influence on schooling. Among Israeli Jews who do not have strong extended family ties, household size is negatively related to educational outcomes. Unlike Jewish households,

Muslims utilize a large kinship network beyond the nuclear family, which alleviates the resource constraints associated with having more children (Shavit & Pierce, 1991). In Kenya, Obonyo (2012) found out that the religion of the parent may determine if the child can benefit from occasional sponsorships of orphans and destitute children that is awarded by religious organizations.

2.12. Community Based Factors

Communities can influence dropout rates by providing employment opportunities to school going children. While some researchers have found out that work can contribute to a student dropping out, others have showed that student employment begins to correlate with dropping out when the student regularly works over 14 hours per week (Mann 1986, 1989 cited in Okumu 2008).According to Buchman (2000), some communities are prone to child labour than others. Communities around schools and households treat child labor as a usual economic activity that can be done alongside education. Other factors which can affect children participation in education include disease prevalence in an area as well as social security of the pupils. But Clark (1992), using more recent data, found no evidence of a tipping but did find that the odds of a boy dropping out of school increased substantially as the neighborhood poverty rate increased from 0 to 5 percent. Students living in poor communities may also be more likely to have friends as dropouts, which increases the likelihood of dropping out of school (Carbonaro,1998).In some urban zones in Kenya, domestic house helps who never studied secondary schools are more preferred than those who cleared secondary schools in relation to bargain in salaries and duration of going to remain in the new employment(Obonyo,2014).

2.13. Child Labor

According to human capital theory, parents make choices about how much time and other resources to invest in their children based on their objectives, resources, and constraints which, in turn, affect their children's tastes for education (preferences) and cognitive skills (Haveman & Wolfe, 1994). Parental income, for example, allows parents to provide more resources to support their children's education, including access to better quality schools**.** Despite the fact that most researchers tend to house child labor it within community or household factors, Obonyo (2014) notes that child labor effects can be well understood if it's handled separately from the rest. Within the household child labor can take different forms. It is common for girls to take on a great deal of house hold chores such as care giving, cooking, cleaning, laundry, fetching water and gathering firewood (Muema & Mutegi, 2011).According to International Labor Organization (2009), household chores increase with age and time spent on it increases from 14 to 28 hours per week from ages below 12 to teenage. Although boys participate in household chores, they spend fewer hours on them than girls but absenteeism in school for girls increases with increase in number of hours spent on domestic chores. In most cases girls are overworked because they do all the duties the mother is supposed to do since the she is busy with other income generating activities and as such the likelihood of dropping out of school is very high (Moyi, 2011).

2.14. Pupil Characteristics

Related literature shows number of child factors that may determine participation and of children within the household. Attitudes of pupils can be shaped by their peers in school and those in the neighborhood. This attitude and perceptions contribute to what is called engagement of the pupil which can either be academically or socially. Several theories have been developed in recent years that suggest that dropping out of school is but the final stage in a dynamic and cumulative process of disengagement (Newmann et al., 1992; Wehlage et al., 1989) or withdrawal (Finn, 1989) from

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school. Although there are some differences among these theories, they all suggest that there are two dimensions to engagement: academic engagement, or engagement in learning, and social engagement, or engagement in social dimensions of schooling (Wehlage refers to this as school membership). A growing body of research suggests that both residential mobility (changing residences) and school mobility (changing schools) increases the risk of dropping out of high school (Astone &McLanahan, 1994)

2.15. Parental Involvement in Education

Sociologist James Coleman argued that human capital (parental education) and financial capital (parental income) were insufficient to explain the connection between family background and school success. He argued that social capital, which is manifested in the relationships parents have with their children, other families, and the schools, also influences school achievement independent of the effects of human and financial capital (Coleman, 1988).Although Coleman relied on indirect measures (e.g., family structure) of social capital in his research, some recent studies with more direct measures of family relationships have confirmed that strong relationships between students and parents reduce the odds of dropping out of school.

Several theories have been advanced to explain why all students who drop out of school do so, including discussions of how school context interacts with students' experiences to produce dropout behavior. These models include the frustration–self-esteem model, which posits that school failure lowers students' self-esteem (Finn 1989); the participation-identification model, which contends that students who are more engaged with school are less likely to drop out. Mahoney and Cairns (1997) and a social capital model, which examines the resources that students draw from their relationships with teachers, parents, and peers and argues that teenagers with fewer academic-related relationship resources are more likely to drop out of school. The theory of social capital of pupils has been postulated to increase when parents get highly involved with pupils' affairs in schools. Social capital can also be located in familial ties. Parents can increase their children's levels of social capital by interacting positively with their children; by implementing closure in their children's networks; or by interacting closely with schools, other institutions, and other adults in their children's lives. In pursuing these strategies, parents add to the social capital of their children and help to prevent disengagement from schooling and truancy (McNeal 1995).

3.0.   METHODOLOGY
3.1.   Research Area.

According to recent analyses, Kinango is among the five poorest constituencies in the country ranking 207 out of 210, with 75% of its population living below poverty line. It has a population of 220,000 (KNBS 2012) who mainly depend on subsistence farming and livestock keeping of the indigenous type of cows and goats. The area has erratic rainfall patterns. Land is communally owned. A number of private ranches are present. Most people are Christians, followed by Muslims and traditionalists. The communities found here are the Duruma, Kamba and Maasai towards the border to Tanzania. Polygamy is practiced by many. The area is Swahili language dominated hence communication in English deemed a challenging task but did not influence the findings.

3.1. Objectives of the study:

The main objective of the study was to find out the household and community based determinants of dropping out of school by pupils public primary schools in Kinango district. The specific objectives of the study were:

(i). To find out the influence of the level of education of the parents on pupils dropping out of school in Kinango district

(ii). To find out the influence of Social economic status of the pupils in dropping out of school in Kinango district.

(iii). To establish if there is any relationship between pupils dropping out of school in relation to their age and gender

(iv). To find out to what extend poverty (household income) influences pupils in dropping out of school in Kinango district.

Hypothesis:

The study was guided by the following hypothesis:

Ho_1: There is no influence of parental involvement on the possibility of pupils dropping out in the district.

Ho_2: There is no statistically significant relationship between gender and dropping out of school amongst public primary school pupils in Kinango district.

Ho_3: The Average distance of the school from the household has no statistically significant influence on pupils' drop out in public primary schools in Kinango District.

3.2.　Research Design:

The research employed descriptive research design. A sample of 90 pupils was drawn from the a sample of 15 primary schools. The sample consisted students who had dropped before and those who had never dropped before and was done through random sampling. After the administering interview schedules to the pupils, phone contacts of the interviewed pupil's parents were obtained by the head teachers to schedule for an interview over weekends when parents are free to do so. Pooling of parents was done to ensure those who hail from the same geographical location are met at specified places near their household. This is because most household are scattered and there were a lot of geographical barriers in accessing the all households. An interview schedule for 42 parents was possible i.e. 20 women and 22 male. Quantitative data was collected through interview schedules whereas qualitative data was collected through Focused group discussions. Permission to interview pupils was issued by the District Educational Officer and that of interviewing parents was done through the local leaders. Ethical standards were observed to ensure rights of both parents and children were safeguarded. Quantitative data was coded and analyzed using SPSS and STATA whereas qualitative data was analyzed thematically.

3.3.　Conceptualization of the study

This conceptualization highlights the complexity of social economic and community variables that influence dropout of pupils; most of which are interrelated and influence each other. The factors discussed in the literature review were categorized into three broad categories i.e. Household characteristics, parental characteristics, Child/pupil characteristics and community characteristics to generate a model which can house the rest of them and establish the relationship between the dependent variable (dropping out of school) and the independent variables (the instrumental variables in the model).

3.4.　Model specification

Children of school going age from any given household are either schooling or have dropped out of school. Parental choices to keep children in school or allow them drop out of school is determined

by the utility associated with future wealth and income of their children. This utility function can be expressed as:

$$U = f(S,L,C) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

Where S is schooling of children, L is Leisure time utilization by children and C is household consumption costs. Production function of schooling can be illustrated as:

$$S = f(M,K;\mu) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 2$$

Where M is a vector of market purchased inputs like books, uniforms, pens e.t.c. K is the effective time a child devotes to schooling and μ denotes individual and environmental variables which influence schooling. Literature available indicates a serious tradeoff in the time available to be utilized by the child based on circumstances in the household and the summation of the total time available can be written as:

$$W(T) = W+X+Y+Z \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3$$

Where X is time to generate income from any form of child labor, W is the time to do unpaid household chores, Y is the time the child spends for leisure and Z is the time used in schooling. Since schooling, no schooling and dropping out are outputs of home-based market production, then parental income constraint will affect anyone of them implying that the household income must also include the income generated by the child from activities done out of school. i.e.

$$\sum H.H.I = IF + IM + IX \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 4$$

Where H.H.I is household income, IF is income from the father, IM is the income from the mother and IX is income from the child when in paid labor. A trade off will emerge in parents on the need for enrollment of the children, continued schooling, or dropping out based on the net value of the income generated. The above dimensions were modelled into a logit regression model shown below to estimate the determinants of dropping out of school by considering the four dimensions discussed above (3.3):

Predicted Logit ($HHD_{ij}=1$) = $\alpha + \beta_1 PC_{iJ} + \beta_2 HC_j + \beta_3 PC_{ij} + \beta_4 CC_j \ldots\ldots\ldots 5$

Where:

Logit ($E(HHD_{ij})$), is the probability of a pupil i to drop from house hold j and is a function of:

PC_{ij} = A set of characteristics of pupil i from household j

HC_j = A set of household j or family characteristics.

PC_{ij} = Parental characteristics of pupil i in household j.

CC_j = Community characteristics of pupil i and household j.

α & β are the covariates for the independent variables.

HHD_{ij} = dropout of a pupil, and takes $HHD_i = 1$ if a child was reported to have dropped out of school and later reported back; else $HHD_{ij} = 0$. This is the dependent variable of the model and only pupils who had dropped more than one term were considered so as to distinguish between truancy and chronic absenteeism. The pupil characteristics PC_{ij}, include:

Age of the pupil in years

Orphanage of a child as a result of death of a mother and father; orp_dad being orphanage due to death of a father and takes a value of 1 if father of a child died, otherwise zero is assigned; orp_mum being orphanage due to death of a mother and takes a value of 1 if mother of a child died, otherwise zero is assigned.

A dummy variable for gender of a pupil; *boy* takes a value of 1 if pupil is male and zero for female.

The household characteristics, HC_j, include:

Household size; HH-size= number of persons in the household

Proportion of economically active members of household; Econ_Act which is the number of persons between 18 and 64 years of age in a household divided by total number of persons in the household.

Household expenditure, HH-Exp per year which is a proxy variable for level of household income per year and an essential indicator of household poverty.

School expenditure per year Sch-Exp which is the amount spent by the household in the schooling of children in form of any levies paid of school uniforms and learning materials.

The number of meals per day in the house hold, Meal which is also the nutritional level and indicator of SES.

Parental characteristics:

Education level of father and mother; Edu-dad being number of years of schooling for father while Edu-mum being number of years of schooling for mother.(in Kenya primary schooling takes 8 years and secondary schooling takes 4 years.).

Marital status of household head is captured by three variables; HH-mard=1 if household head is married and zero otherwise; HH-Div=1 if household head is divorced and zero otherwise; HH_Wid=1 if household head is widowed and zero otherwise

Community characteristics:

Distance to school, measured by the average distance in kilometers of nearest public primary school per to the household of the pupil.(in some cases approximation was made based on the number of hours the pupil takes to school).

4.0. FINDINGS AND DISCUSSIONS:

The research items were divided into three groups. Those that sought to find information from the pupils and those that sought to find information from the parents. To address the first objective of the study on the social background of the respondents, interview schedules were administered to students in the sampled schools and later the same day in the evening parents were also interviewed through phone call arrangement. This was done to optimize n the timing considering that most household are sparsely located. The basic child variables of interest to the researcher was the pupils age.65% of the pupils were not within the official school age(12 years for class seven) i.e. were overage. This was possible since most of the respondents had actually reported back after staying home for more than a year. There were more boys than were girls in the sample. On the size of the household, 10% of the respondents said they live with 1-4 persons, 65.5% had more than 5-9 members and 25.5% had more than 10 members. On whether the pupils had biological parents, 25%of them reported having lost their biological parents and 9% reported having lost their biological mothers.

On whom the pupils were living with; 21% and 7% were not living with their biological fathers and mothers respectively. On the level of education of the mother, 44% of the mothers have never been to school while only 41% of them had only been up to primary school level. The sad observation was that none of the parents interviewed had a post-secondary qualification and that only 15% of fathers cleared class secondary schooling with about 3% being in gainful employment. On the occupation of the parents, 43% of the mothers were simply housewives with 34% carrying subsistence farming and the rest were doing small open market business. On marital status, 72% of the respondents were married while 22% were widowed while the rest were categorized as "others" to imply single mothers or divorced. The noticeable thing about family structure is that over 48% of the parents were polygamous. Public schools in Kinango are greatly spaced with most of the over 5

kilometres and located along the Samburu, Mariakani and Mazeras highway with this zones registering the highest dropout rates annually.65% of the pupils acknowledged being absent from school for over at least two weeks. The other findings are summarized in the table below.

Average of continuous Variables	Mean	SD
Age of pupils	12.87	0.72499
Age of the mother	36.55	0.91326
Age of the father	42.23	1.10461
Household size	6.267	0.52580
Proportional of economically active population in H/H	0.435	0.94188
Amount spend per year on schooling costs(dollars)	555.5	0.87437
Distance from school to the household(Kilometres)	3.23	0.83219
Days absent from school per term	18.23	0.63398
Number of drop out friends he/she associates with	2.23	0.75005
Number of meals per day	1.46	0.84283

On the causes of absenteeism, distance from school was cited as a major challenge especially when it's a rainy season and when crops are almost ready for harvesting as some children are used by the parents to scare monkeys from firms. One parent reported:

"The school is very far from here, over 4kilometres; how do you expect this young boy to reach there if the sister is sick. Because between home and the school is full of animals like elephants. Besides I don't even see what the children are learning because he can't even write his name well and he is in class two"(interview of 17thjuly 2014)

We tested the equality of means on variables in the estimated models between pupils who were reported to have dropped out of schools and those that were still schooling at the time of the survey and the findings are summarized in the table below

Table 1

Variables		observations	Mean	T statistics
Gender household Head	Drop out	46	0.686163	-2.3544
	Non-drop	44	0.732187	
Gender of pupil	Drop out	32	0.56667	19.3828
	Non-drop	42	0.58387	
Marital status	married	19	0.63536	3.6363
	widowed	11	2.73633	
	Divorced	10	2.68373	
Family level of expenditure per year	Dropout	44	423.67	4.6373
	Non-drop	45	406.37	
Age household Head	Drop out	46	0.612344	6.2633
	Non-Drop	44	0.623328	
Orphanage due to death of father	Dropout	58	0.156626	-4.2837
	Non-Drop	32	0.147363	
Orphanage due to death of mother	Dropout	45	10.64634	7.3836
	Non-Drop	44	11.27252	
Age of pupil	Dropout	36	12.99383	3.4746
	Non-Drop	51	12.57635	

Proportion of economically active persons	Dropout	43	0.356005	-26.8646
	Non-Drop	44	0.378838	
Distance to school	Dropout	35	3.044542	1.2044
	Non-Drop	44	2.246341	
Amount paid to school per year	Dropout	47	4135.25	23.7473
	Non-Drop	42	4026.83	
Household size	Dropout	64	9.37344	9.3836
	Non-Drop	35	7.577356	
Mothers education level	Dropout	51	9.736733	16.3837
	Non-Drop	58	7.577357	
No of meals per day	Drop out	48	0.397373	-4.9337
	Non drop	42	0.356646	

From the table above, all demographical variables are significant at p-value 0.05(t=1.96) except meals the number of meals per day, proportional of economically active population in the house, orphanage due to father and gender of household head. The number of meals per day was proxy indicator of child s health and household level of poverty. But since almost the whole of Kinango district people are very poor, its effects are overshadowed by other variables. Orphanage due to father has high SD but not significant since after death of the father, the mother automatically resumes responsibility and from the focused group discussion that was held, most women actually hinted that most fathers are not very keen with working. Gender of the household was also overshadowed because of the large sizes of families in the district.

Factors in the regression model:
Demographic factors:
The first part of the analysis involved the calculation of Pearson correlations to check for independence among the continuous demographic variables. The variables involved in the correlation included: Age of the pupil(Age-Pup),amount paid to school per year (Sch-Exp),gender of the pupil(GE-PP), Household expenditure per year (HH-Exp),age of the household head (Ag-HD),orphaned by mother(Orp-mum),Distance from school(Dist),mothers education(Edu-mum), household size (HH-Size),meals per day(Meals) and Number of economically active population(Econ-Act)
Most of the variables above were highly correlated (correlational coefficient close to 1) except for gender of the child, household expenditure, educational level of the mother, amount paid to school and orphaned by mother. These five factors represented the household factors and demographic factors that were included in the regression model.

Parenting style, parental attitudes and parental involvement:
There were nine variables here and most of them included the responses of parents on their attitudes towards schooling and education at large as well as on what extend they get involved in school based management. The items included:
Checking of pupil's homework after school (1-HMEWK), attending school academic days (2-ATTEND), Allow children to come home late (3-LATE),Allow children to attend nigh cultural festivals (4-FESTIV),opinion towards public education (14-PUBLIC),can allow earlier marriage (5-MARY),Warmth to the child (6-WARM),who makes most decisions in the household(7-DECID), parental attitude towards child labor (8-LABOR),Planning for secondary education for the child (9-SEC),Aware of academic strength and weakness of the child (12-ACAD),checking on child

absenteeism (13-ABSENT) experience of family conflicts (10-CONFL),sexual violence of children in the community(15-sexual).The variables 10,5,13 were classified under parental perception (p.perc), 1,2,9,12,13under parental involvement(p.inv) and 3,4,6,7,14 parenting style(p-style).8,14 and 15 under community(community)

Cronbach's Alpha for testing reliability
Cronbach's Alpha for the 15 variables in groups of threes, fours and others in five was performed and the results were as follows:

Table 2

New Variable	Alpha value	mean	SD	Classification
Parental involvement	.908	10.16	3.32	excellent
Parental perception	.716	6.33	1.74	acceptable
Parenting style	.549	5.713	1.60	poor
Community	-.2411,	3.562	1.722	unacceptable

According to George and Mallery (2003 as cited in Gliem & Gliem, 2003), Cronbach's alpha are classified as having the following values, (9) excellent, (8) good,(7) acceptable, (6) questionable, (5) poor, and (<5) unacceptable. Despite the fact that some scales were with low internal consistency, the items were found to have content validity. A composite value for parental involvement and parental perception were generated and abbreviated as *p.inv* and *p.perc* respectively.

Hypothesis one:
There is no influence of parental involvement on the possibility of pupils dropping out in the district.
To test this hypothesis, A discriminant analysis was conducted to find out whether the factors in new variables could predict the likelihood of dropout. Because the groups were unequal, the function to compute from group size was utilized in classification with combined groups. When examining group statistics and test of equality of group means, group differences were significant (p<.05) for the variables parental involvement and parental perception. The discriminant function had an eigenvalue of .94 and a canonical correlation of .69. The canonical correlation for the discriminant analyses (.69² = .48) was used to obtain the eta squared.

Table 3

Tests of Equality of Group Means

	Wilks' Lambda	F	df1	df2	Sig.
Parental involvement(comp:p.invol)	.963	3.725	1	118	.046
Parental perception(comp:p.perc)	.964	3.685	1	118	.042
Household size	.960	4.039	1	118	.047
Age of household head	.950	3.013	1	118	.086
Age of the pupil	.954	4.738	1	118	.032
Amount paid to school per year	.962	3.900	1	118	.021
Household expenditure per year	.953	4.844	1	118	.030
Size of economically active members	.964	3.685	1	118	.042
Orphaned by mother	.944	2.642	1	118	.107
Gender of the pupil	.965	3.596	1	118	.041
Distance from school	.976	2.362	1	118	.028
Mothers level of education	.974	2.584	1	118	.011
Gender of the pupil	.959	4.213	1	118	.043

From the above table the variables parental involvement and perception were significant at P=.005. Accordingly, 48% ($\eta2=.6932=.480$) of the variability of the scores accounted for differences among the two groups i.e those who had dropped and reported back and those who had not dropped at all in the sample. The Wilks Lambda indicated a series of chi-square significance tests. These tests assessed significant differences among groups across the predictor variables. The Wilks Lamda indicated significance, $\Lambda=.520$, $X^2(4, N=121)=168.78$, $p<.05$ and hence the hypothesis was rejected, indicating that there are differences among groups across the four predictors in the population.

Test of Function (2)	Wilks' Lambda	Chi-square	Df	Sig.
1	.520	168.78	4	.000

The age of the household head was not significant in influencing the pupils to drop out because most of the household covered were consisting of extended families and the effect of the presence or absence of the effects of the household head were obscured. In this part of the country, cultural ties are very strong and most extended families crowd together within households of at least five members as it was revealed from descriptive statistics.

Logistic regression:
From the findings in the table 3 the variables that were not significant at P=.05 were not included in the model. These included: Orphaned by mother and age of the household head. Final preparation was made to include the remaining variables in the regression model. Before doing so, the Homoscedasticity of Residuals of the eleven variables was done by use of **imest** i.e the White's test and the second one also given by **hettest** i.e the Breusch-Pagan test and the results were as follows:

estat imtest

Cameron & Trivedi's decomposition of IM-test

```
---------------------------------------------------
            Source |    chi2     df      p
-------------------+-------------------------------
 Heteroskedasticity |   17.25      9    0.0321
          Skewness |    6.68      3    0.0507
          Kurtosis |    0.24      1    0.6059
-------------------+-------------------------------
             Total |   24.17     13    0.0152
---------------------------------------------------
```

The total P-value was 0.0150 i.e. significant. This implied that the hypothesis that there was no difference in the variance of the variables predicting drop outs. Thus rejecting the hypothesis implied that the variance was not homogenous. The same was observed with the Breusch-Pagan test and the results below.

estat hettest
Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
        Ho: Constant variance
        Variables: fitted values of drop out
        chi2(1)   =   8.77
        Prob > chi2 =   0.0033

This prompted further analysis to test for Multicollinearity of the predictor variables. This is because as the degree of multicollinearity increases, the regression model estimates of the coefficients become unstable and the standard errors for the coefficients can get wildly inflated. This was done by use of *variance inflation factor* test (VIF) after performing a regression with all the above ten predictor variables and dropout as an outcome variable. The results were as follows.
vif

```
Variable |    VIF        1/VIF
---------+-----------------------
 Meals   |   45.56     0.021951
 HH-Size |   17.45     0.057274
 Age-Pup |    8.50     0.117664
 Sch-Exp |    7.35     0.121993
 Dist    |    8.19     0.131867
 P.Perc  |    8.45     0.118397
 P.Invol |    6.79     0.147364
 Edu-Mum |    3.05     0.328378
 Gend-pup|    3.61     0.277358
 HH-Exp  |    2.40     0.417354
 Econ-Act|   11.72     0.085324
---------+-----------------------
Mean VIF |   11.78
```

By the rule of thumb, all variables which have a tolerance level (1/VIF) of less than 0.1 are possibly redundant i.e. they are collinear since they measure the same thing. These variables included: Number of meals per day which is actually represented by the level of household poverty measured by the proxy variable household expenditure (HH-Exp) and Household size (HH-Size) which was also measured by the same variable number of economically active members which is an indicator of high household expenditure thereby vindicating households' dependence burden. The mean value of the VIF test is above 10 possibly because of these two redundant variables. VIF test was carried out minus the two variables and the VIF value   dropped to 9.98 and all the tolerance levels were above 0.1 and hence all the eight items were considered for inclusion in the regression model. The eight variables were included into a logistic regression model to establish their probability of influencing drop out of the pupils. The binary outcome variable drop out had been coded 1=drop out and 0=Not dropped out.

Model specifications and fitness:
The model specification for fitness was carried out to find if the eight variables were relevant and not important variable for estimating determinants of dropping out of school had been left out. A *Link test* for model fitness was carried out and the P-value for Hat(created prediction variable) was significant at 95% significance level whereas squared prediction, *_hatsq* was not significant. The model was fit at F= (2,118)=7.07 and P>F=0.0009 and R^2 for the model was 0.0325 indicating some reasonable level of fitness.

Individual predictors
Finally a logistic regression to predict the outcome of the dichotomous variable "dropout" from the eight variables, five variables statistically significantly predicted "drop out", F (8,121) =322.38, P<.0005, pseudo R^2= .677. Five of the eight predictor variables were found to be add statistically and significantly to the logistic regression model. All the independent variables in the model explained 67.7% of the variability in the binary variable "drop out" as follows:
Predicted Logit of (Dropout) = -9.5709 + (0.5671) * boy + (0.1716) *Distance + (-1.7165) * Household expense + (0.3871) * parental perception + (-0.7152) *parental involvement + (0.4164) * Age of the pupil + (0.0513) * school expenditure + (-1.0873) * Education of the mother.

Table 9
Logistic Analysis of Maximum Likelihood Estimates (MLE) of Dropping Out

Parameter /Predictor	DF	Coefficient Estimate (*B*)	Standard Error (*B*)	Wald Chi-Square	Pr > ChiSq	Odds Ratio
Intercept	1	-9.5709	2.5284	14.3288	0.0002	
Boy	1	0.5671	0.1376	16.9933	<.0001	1.763
Distance	1	0.1716	0.1900	0.8674	0.3517	0.838
HH-Expense	1	-1.7165	0.2130	64.9529	<.0001	5.565
P.perception	1	0.3871	0.2142	3.2664	0.0707	1.473
P.Involvement	1	-0.7152	0.2667	7.1895	0.0073	0.489
Age-Pupil	1	0.4164	0.2532	2.7038	0.1001	0.659
Sch-Expendit	1	0.0513	0.0092	30.8434	<.0001	1.053
Educat-Mother	1	-1.0873	0.1930	31.7550	<.0001	0.337

Household ExpenditureL:

Keying on odds ratios, Household expenditure (HH-Exp) was a strong predictor. Students who who come from households where householder expenditure is high implies that their household income is also high and hence a higher SES and as such are 5-6 times less likely to drop out of school. In Kinango, most families were found to actually live in less than a dollar a day. They could barely manage two meals in a day. The household level expenditure was taken as a good proxy to establish their level of income since in the previous research we did in Kilifi District, it was quite difficult for the researchers to know the actual income generated form their informal activities engaged by parents since most of them always deflate their earnings with an thinking that the work of the research was to find out those who deserve relief aid of assistance. It was evident that poverty which is housed within this proxy variable was the key determinant of pupils dropping out in Kinango district as per the odd ratio above.

Mother's Education:

The descriptive statistics indicated that the 44% have never been to school and 41% of them have been up to primary school. Some parents have been up to secondary school. The role of mother's education was quite evident from the logistic MLE output. A lower recorded mother's Education, resulted in a higher probability of dropping out of school, holding constant all other variables in the model. In terms of coefficients, I unit increase in mother's education reduced the pupils probability of dropping out by 1.09 holding other variables in the model constant. This is in line with most literature despite the fact that only 41%of the parents had been up to primary school which happens to be the highest level of education to most of them in the study area.

Gender of the child:

Hypothesis 2

There is no statistically significant relationship between gender and dropping out of school amongst public primary school pupils in Kinango district.

Gender of the child that was represented by the dummy variable "boy" added significantly to the model. P=.000I. A unit increase in the gender of the pupil being a boy increased the chances of dropping out by 0.57.In other words boys have a higher probability of dropping out in Kinango district than girls. Therefore the findings failed to support the null hypothesis .This findings concur with the once that were done by the ILO and IPEC (2012).The major explanation given to this is the high supply of child labor in the district which offers a higher opportunity cost for boys schooling. Since this community is highly cultural, mots girls will only be inclined to domestic chores and within household chores where the presence of the mother around them is higher. Besides, there is a culture in the community of higher bonding of girl to mothers more than boys do to the fathers.

School Expenditure:

School expenditure which was a composite value for the items that sought to find out what influence they had on school attendance and drop out. From descriptive statistics, most pupils had indicated money for end term examination, school uniform and school levy for lunch as some of the items that make them miss school at times. From the model, the composite variable added significantly to the outcome variable with one unit increase in this expenditures increasing the chances of the pupils dropping out by 0.05units holding other variables constant.

Parental involvement:
This was a composite variable with items which assessed the level of parental involvement in the education of the child. This added significantly to the model with 1 unit increase in parental involvement reducing chances of pupils dropping out by 0.71 units. With the introduction of free primary education in Kenya, parental involvement declined because of the scrapping of fees and hence shifting the attention of parents from schools. In fact, it's quite difficult for most parents to even create time to attend the annual general meetings in schools. Parental perception was not so significant probably due to overlapping with parental involvement or due to endogeneity.
Distance of the school from the household and age of the pupil:
Hypothesis 3:
Average distance of the school from the household has no statistically significant influence on drop out amongst public primary school pupils in Kinango District.
From the findings above, two variables added insignificantly to the model and hence the hypothesis was accepted, implying that the distance did not have much contribution to pupils dropping out. Most public schools in Kenya are on average located too far away from the household. It seems the distance alone will not directly influence the outcome holding the other variables constant. Distance has been found to affect girls more than boys due to gender based violence but it seems in this study area, the effects are minimal. The same was observed with age. Most Free primary education pupils are actually overage. Various researches from the rest of the country indicate that truancy is associated with drop out, but age could have clearly stood out if school variables could have been included in the study.

Conclusions
The purpose of this study was to find out the determinants of pupils participation and dropping out in this part of coast province of Kenya**.** First, the research area is located in a rather cultural and poor and marginalized part of the country. The findings revealed that most households contain more than five members and the level of poverty was evident in the nature of the households that were seen by the numerators i.e. Makuti thatched houses. Besides, most parents were illiterate with very high negative opinion about public education. The large members in the household increase the household expenditure which as well increases opportunity cost for schooling for children as most of them were driven to child labor to supplement parental income.
   The level of mothers education showed a significant influence as most of the pupils who dropped out were from households where mothers have never been to primary schooling. Most Fathers in this religion are fond of taking the famous local brew''mnazi''.Their contribution to family income is low. Their role in parental-child relationship is also low considering their low education. So the level of parental influence in the schooling of the pupils is low and as such some community or household level truancy was evident amongst most pupils especially boys who leave very earlier to school only to go to beaches or cultural festivals like weddings .In fact the night wedding dances was mentioned a lot to be the major event that lures learners into various social vices which have negative influence on their schooling. It also appeared the boy child in this place has unequal chances of finishing school due to high opportunity costs for him and high positive opinion of parents to girls than to boys because of the dowry element. Despite literature indicating that mother's education has no significance influence on child education in Kenya, the research established that it has especially the schooling of the girl child.
 The level may not be in terms of years of schooling, but the ability to have positive attitudes towards education. Poverty seems to command most trends in schooling especially on the level of household nutrition because most household were barely able to afford three meals a day which

means that over the whole day when the pupils are at home, they must look for alternative ways of having a meal on the table and probably that is why there were so many reported cases of child labor in the district. On the justification of the use of multiple and diverse predictors, it has been revealed that in developing countries, it is difficult to isolate community and SES. The research strived hard to create dummies which can proxy for household, community, parents and pupils so as to understand the problem concisely. This is despite available literature that variables like distance of the school from the household   and age of the child which have dominated most literatures not registering any significance.

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