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ABSTRACT

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Pull and Push Factors Influencing Teachers in Rural Ghana and their Effect on Students Academic Performance

N.A.A. Opoku-Asare^α, A. Yeboah^σ, A. Tachie-Menson^ρ, K. E. Clifford^ω

ABSTRACT

Many teachers refuse posting to rural schools in Ghana because they are not willing to live in rural areas. This denies rural schools of teachers who could teach to raise student achievement, particularly in the West Africa Senior Secondary Certificate Examination, which qualifies senior high school (SHS) graduates for higher education in Ghana. To understand the pull factors that could motivate teachers accept to live and work in rural areas, and the push factors that could influence teachers to transfer from rural to urban schools, we adopted the qualitative-quantitative research approach with interview, questionnaire administration and observation to solicit data from 120 teachers (19 females; 101 males), 757 SHS 2 students (306 females; 451 males), and two Headmasters (males) in two public SHSs in rural Afigya-Kwabre West district of Ashanti Region and the Deputy District Director of Planning and Statistics. Findings from these rural schools revealed that job/personal/property security, early release of teachers for study leave, respect and recognition for teachers, and a peaceful rural environment are the major pull factors that motivate SHS teachers in rural Afigya-Kwabre West district to stay. However, compromised job/personal/property security, and lack of additional sources of income are significant push factors that threaten their retention. Moreover, it is evident from the study that when a rural Senior High School teacher vacates post, there is a high possibility of students experiencing a decline in their academic performance in that particular subject area, the following year. Contrary to this, when Senior High School teachers in a rural area are highly motivated to

stay, then, there is a high possibility of an increase in students' academic performance in the subsequent year. We believe that rural posting would be attractive to SHS teachers in Ghana if the government of Ghana improves the living and working conditions of teachers in rural areas and implements the 20% of basic salary allowance recommended by the Anamuah-Mensah education review committee in 2002 to compensate teachers in rural Ghana.

Keywords: pull-push factor; rural area; education in rural areas.

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I. INTRODUCTION

Teachers are central to every educational system. They constitute the most important factor that determines the quality of education that children receive, ensure achievement of curriculum objectives and determine the quality of any educational system (UNESCO report on Teacher Motivation, Compensation and Working Conditions, 2006; Kocchar, 2004; Amissah, Sam Tagoe, Amoah, & Mereku, 2002). To a large extent, attaining quality education depends on teachers who have a strong commitment to teaching as effective facilitators who inspire their pupils to learn (Colker, 2008). Hence, increasing student achievement implies recruiting, preparing and retaining qualified teachers who are ready to offer quality teaching to improve schools and develop quality manpower to support economic development of nations (Addae Mensah, 2000, as

cited in Siaw, 2009; Center for Public Education, 2005; Ankomah & Amoako Essien, 2002).

To give meaning to this theory, the Government of Ghana instituted policies such as housing schemes, payment of car maintenance allowance, study leave with pay and a proposed 20% pay incentive allowance to compensate teachers who accept to work in rural and deprived areas (Adu-Gyamrah, 2011). In addition, headmasters and headmistresses of the various Senior High Schools in rural and urban Ghana provide free meals for teachers who work in boarding schools; Parent-Teacher Associations pay motivation and extra teaching allowances; awards are given during speech and prize giving days; and some schools provide free accommodation for their teachers. These and other incentives are sanctioned by the Ghana Education Service (GES) to entice teachers to stay on in the schools they work in.

In spite of these incentives, preliminary research conducted by the researchers reveals that the majority of Senior High School teachers in the rural part of Afigya-Kwabre West district of Ashanti Region are not willing to stay there to offer their services. This raises a lot of questions as to; what factors makes it easy or difficult for some teachers to continue working in the area? and what is the effect of the “push” and “pull” factors on the standard of education in Afigya-Kwabre West district of Ashanti Region? The study was therefore carried out to investigate into factors that influence Senior High School teachers in rural Ghana to either stay (pull factor) or leave (push factors). The study ultimately aimed at identifying how these decisions affect the academic performance of their students.

II. PUSH AND PULL OF MIGRATION

Migration has changed the demographic composition of towns, cities, and nations (Solem, Klein, Muñiz-Solari & Ray, 2011). People change their area of location in relation to factors that either push them away from their original locations or pull them to a new one. Movement from one place to another emanates from the interaction between the push and pull factors (Schott, 2013). Push factors are the factors or

conditions within a place that forces people out while pull factors are conditions within another that attract and draws people from their homeland to it (Gussin, 2013; Whitelaw, 2012; Riley, 2011). Push factors include low productivity, unemployment, poor economic conditions, and lack of opportunity for advancement while opportunity for better employment, high wages, better facilities, and better working conditions constitute pull factors (Kaith, 2009). Push factors are associated with an area of origin and pull factors, an area of destination.

Migration is possible between any two places. However, as Lee’s theory of general migration (Muñiz-Solari, Li, & Schleicher, 2010) suggests, flows or spatial movements between the origin and destination targets of migration encounter intervening obstacles that can affect a person’s decision to move. Movement is likely to occur if the plusses (pulls) at the destination target outweigh the plusses of staying at the place of origin and the vice versa. In the context of this paper, the pull factors constitute the reasons or issues that motivate teachers in rural areas to retain their teaching positions in rural schools and the push factors refer to the reasons that influence teachers to transfer from rural to urban or peri-urban schools.

III. CONCEPT OF RURAL AREAS

The concept of ‘rural’, has no universal definition because different countries have different perceptions of what rurality means (Adedeji & Olaniyan, 2011). The classification of an area as ‘rural’, according to Nukunya (2003), is context specific and depends on the heterogeneity of the population and the presence of certain social amenities and essential services In Ghana, a rural area describes a locality that is either far or not too far from an urban area, that has settlement patterns characterized by isolation, extractive economic activities and a population of less than 5,000 people (Ghana Statistical Service, 2003).

Although rural areas are often lauded for being healthier, quieter, safer and a good place to raise children, rural lifestyles also pose some

substantial disadvantages that threaten the retention of teachers in rural classrooms (Miller, 2012). A rural area is also known to offer family-oriented settings, fresh air, and enhanced quality of life (Cowan, 2010) yet many teachers refuse rural posting due to concerns about the quality of housing, classroom facilities, healthcare, school resources, opportunities for professional advancement, professional isolation, and language barriers (Addy, 2013; Amoako, 2011; Akyeampong & Lewin, 2002; Coultas & Lewin, 2002; Hedges, 2000). Teachers in rural schools may also have reduced contact hours with their students as compared to their colleagues in urban schools with respect to missed school days when teachers have to travel to the urban centers to seek medical care, collect pay, attend in service training, or visit family (Mulkeen, 2005), which negatively affects schooling effectiveness.

Understanding the pull factors that define teachers' motivation to accept posting to rural areas in spite of urban attractions and the push factors that could induce a teacher to transfer to an urban area as this study sought to do, is therefore very appropriate and necessary for identifying effective strategies to improve acceptance of rural posting by qualified teachers and also mitigate teacher attrition from rural Senior High School (SHS) classrooms.

3.1 Senior High School Education in Rural Areas

One's qualification into Senior High School (SHS) in Ghana is based on WAEC grading system. Only high performers who obtain BECE Aggregate 6-12 are fit for consideration for admission and placement in the elective programmes of study (Hayford, 2007; Asihene, 2009; Dorleku, 2013). However, SHS in Ghana are graded into three categories as first, second and third class, depending on the level of educational resources available to the schools. First class schools are mainly located in urban areas, they are well-endowed and organized; they have more well trained and qualified teachers, better facilities and are recognized nationwide as good schools where students obtain excellent WASSCE grades that qualify them for higher education in Ghana's public universities (The President's Committee on

Review of Educational Reforms in Ghana, 2002; Asihene, 2009; Siaw, 2009). On the other hand, second class schools are relatively less endowed and perform marginally below the standard of first class schools. Although mostly located in peri-urban environments, these schools tend to receive JHS applicants with good BECE grades, with many of them generally performing well in WASSCE. More importantly, third class schools are predominantly located in rural communities, are poorly resourced and patronised mainly by applicant's resident in those areas (Banson, 2010; Asihene, 2009; Siaw, 2009). Moreover, teaching output of SHS's in Ghana is measured largely by student achievement at WASSCE and not by the facilities available, the level of teaching and learning materials or location of the school (Ankomah, 2002). However, teaching in urban schools where resources are readily available is of high quality and is therefore preferred to teaching in less endowed Senior High Schools in deprived communities. As such, majority of students from rural SHS end up failing simply because of the unfair situation arising from rural-urban disparities. Moreover, many parents are even unwilling to allow their wards to select rural SHS (Adinyira, 2012; Banson, 2010) and there have also been several reports on teachers expressing a strong preference for urban postings than rural postings (Akyeampong and Stephen, 2002 and Hedges, 2000). The Ministry of Education (MOE) and Ghana Education Service in an attempt to help rescue SHS in rural areas from collapsing, introduced the Computerized School Selection and Placement System (CSSPS) that placed students in SHS programs based on raw BECE scores in all subjects. Interestingly, many parents refuse CSSPS placement to rural schools for their children and do everything to bring them back into the urban SHSs where they believe their children would make it to university (Adinyira, 2012; Asihene, 2009; Siaw, 2009). The few who do stay are seriously faced with the problem of losing teachers or having teachers teaching less than their counterparts in urban areas (Mulkeen, 2005) since any trip away from the rural area by the teacher to visit a doctor, to collect pay, to engage in in-service training, or to visit family

may involve long journeys and involve missed school days.

3.2 Push and Pull factors that affect Teaching in rural areas

The motivating factors which cause workers to either stay or leave varies from worker to worker. No wonder there is a rather large and growing body of research dedicated to exploring factors that predict teacher retention. Collectively, the findings demonstrate the power of wage, opportunity costs, non-wage attributes, and teacher characteristics in predicting teacher retention. (Lavy (2004), Glewwe, Ilias and Kremer (2003), Adedeji and Olaniyan (2011)).

The out flow of teacher in rural Ghana continues to be a major problem inspite of the numerous incentive packages being approved by the government such as free meals for teachers in boarding schools, Parent Teacher Association motivation allowance, extra class allowance, awards during speech and prize giving days and free accommodation. Additional packages include Otumfuo Teachers and Educational Workers Awards scheme, the proposed 20 per cent allowance for teachers in rural and deprived areas which is yet to be implemented (Adu-Gyamereh, 2011) and the study leave with pay where teachers in rural and urban areas qualifies after teaching for two and five years respectively.

Despite these incentive packages, Cobbold (2010) recalled that GES still expresses concern about teachers not returning to the classrooms after pursuing further studies in tertiary institutions. Figures from the GES reported by the GNA indicated that out of 16,446 teachers who went on study leave between 1997 and 2002, only 4,914 (about 30%) returned to their posts. Quansah, (2003) supports with the accession that, “the number of teachers that are permitted to go on study leave each year” is the most serious cause of the shortage. Unfortunately, the 30% who return even opts to teach in SHS (Akyeampong & Lewin, 2002; Cobbold, 2010; Hedges, 2002), and also prefer to be posted to urban schools (Gottelmann-Duret & Hogan, 2000). However, teachers in Ghana tend to come from a higher

socio-economic background than average for the country as a whole (Akyeampong & Stephens, 2002). Their reluctance to accept rural posting stems from a profound fear among newly trained teachers with a modern individualistic outlook that if you spend too much time in an isolated village without access to further education, you become “a village man” (Hedges, 2002). Moreover, posting single women to unfamiliar areas may cause cultural difficulties, and may even be unsafe as Rust and Dalin (1990) and VSO (2002) argues. This is because posting unmarried women to isolated rural areas may be seen to limit marriage prospects. Also, posting married women to rural areas is seen as dissociation from their family and as such women are not posted to rural areas as a matter of policy in Ghana and other African countries (Hedges, 2002) no wonder male teachers outnumber female teachers in rural schools in Ghana. This is why Duncan-Adanusa (2006) laments the fact that even though secondary education in Ghana gained international recognition as the best in Africa for its quality for almost two decades after independence in 1957, it now experiences a huge depression partly because many teachers refuse postings to rural schools, which ends up eroding schooling effectiveness. As such, the impact of these push and pull factors on rural teachers over the years have negatively affected students’ performance in examinations and led to a decline in the quality of education offered in Ghana.

IV. METHODOLOGY

The study sought to understand the factors that make it easy or difficult for qualified teachers to live and work in rural areas and how these “push” and “pull” factors affect the standard of education and student achievement in rural Afigya-Kwabre West district of Ashanti Region, Ghana. The researchers employed the mixed method approach for data collection and analysis. This heightened the understanding of the phenomena from multiple data which gave a wider perspective of the problem, hence the choice (Creswell, 2012). Data for this qualitative-quantitative study were gathered via interview, questionnaire administration and observation of classroom

activities from a simple random sample of 120 teachers (19 females; 101 males) from all the departments; 757 SHS 2 students (306 females; 451 males), the Headmasters of two public senior high schools (SHSs) and the Deputy District Director of Planning and Statistics.

In this study, only SHS 2 students participated as respondents because those in SHS 1 had not experienced their teachers long enough to provide accurate data on them and students in SHS 3 and SHS 4 were preparing to write the West Africa Senior Secondary Examinations (WASSCE) and could not be disturbed. For ethical reasons and in line with much qualitative inquiry, the sampled schools are not named but only identified here as Schools A and B. The selected teachers and students answered questionnaires that comprised both closed and open-ended items while the two (2) Headmasters were interviewed to validate the questionnaire responses. The 877 copies of questionnaire personally administered to the teachers and students had 100% and 76.2 % return rate, respectively. Formal interviews were conducted with the two headmasters and an unstructured interview with the Deputy District Director of Planning and Statistics.

V. THE STUDY AREA

Afigya-Kwabre West district has a land area of 342.3km and a population of about 89,967 (Ghana Statistical Service, 2014). The district has peri-urban features as it lies on the fringes of the Kumasi metropolis (approximately 20 km north) as well as rural features in the hinterlands where the two sampled public senior high schools are sited. The district has two public coeducational senior high schools that offer day and boarding facilities.

School 'A' is a less endowed mixed-sex boarding school and has day students who live in the community and neighbouring towns. The school is located at the outskirts of the town but not fenced. Even though the school is under staffed, it has few staff bungalows with majority of the staff staying in the town and other neighbouring towns. Some even shows to come all the way from the city, Kumasi. The highest staff qualification is a

degree. School "B" on the other hand is well-resourced in facilities and staff strength but with few staff member staying outside the school. Due to its proximity to the city, 40% of its staff have been able to upgrade themselves to the master's level with 3 pursuing their PHD. The nagging questions were: "what 'pull' factors build resilience for SHS teachers to accept to work in rural Afigya Kwabre West district? and "What 'push' factors would cause an SHS teacher in rural Afigya Kwabre West district school to transfer to an urban school?"

VI. DISCUSSION OF FINDINGS

6.1 Identification and Description of Pull Factors

Since the research involved intra-national migration, the pull factors relate to the factors which can attract a teacher working in a rural area to remain longer in spite of the attractions of urban areas while the push factors influence other teachers to transfer from the rural teaching post to an urban area. From the responses shown in Table 1, which the 120 sampled teachers in rural Afigya Kwabre West district gave to the items in the questionnaire, security (with 96% of total responses) stands out as the most significant pull factor that positively influence the sampled SHS teachers' decision to remain and work in this rural area. The importance of security as a major pull factor is highlighted by Maslow's hierarchy of needs theory (Riley, 2012) which asserts that once physiological needs are met, one's attention turns to safety and security needs.

As also depicted in Table 1, the teachers' decision to stay in the study area is also significantly motivated in varying terms, by the motivation derived from incentives and rewards offered by the sampled rural schools (63% of responses), greater access to further education as compensation for accepting rural posting (60% responses), respect and recognition for teachers in rural areas (58% of responses), and the peaceful rural environment (58% of the responses).

Table 1: The Pull Factors

Pull Factors	% of Total Respondents
Security (Job, Personal and Property)	95.8
Motivation (incentives & awards)	62.5
Access to further education	60.0
Respect and Recognition	57.5
Peace of mind	57.5
Staff accommodation	45.8
Improvement in students' academic performance	31.7
Easy access to teaching materials	30.0
Have understanding administrator	26.7
Attractive climate / weather condition	20.0
Position held in school	14.2
Non-payment of utility bills	11.7
Easy access to land for farming	9.2
Good interpersonal relations at work	9.2
Low cost of living	7.5
Teacher's age	6.7
Native of the town	2.5
Better chance of finding courtship	1.7

Source: Field data, 2014.

On the contrary, if the lower level physiological and safety needs are not met, higher level motivators cannot awaken. This theory is also strengthened by Herzberg's two-factor theory (as cited in Riley, 2012) that the presence of hygiene or maintenance factors, which include security at the workplace serves to prevent dissatisfaction that could undermine one's motivation and job satisfaction. Hence, if teachers in rural Afigya-Kwabre West district perceive that they are as secure as their colleagues who work in urban schools where facilities are better, then, as Adams' Equity theory (as cited in Yeboah, 2014) indicates, this group of teachers would experience a higher level of job satisfaction that would motivate them to work harder towards attaining organisational objectives – in this case, to promote schooling effectiveness and student achievement.

Contrary to the notion that rural areas are characterized by lack of opportunities for professional development (Amoako, 2011) and fewer opportunities for professional advancement (Towse, Osaki, Funja, & Kirua, 2002), Table 1 shows access to further education as a pull factor that motivates teachers to accept to work in rural

Afigya-Kwabre West district. Further probing of this variable through interview with the headmasters and Deputy District Director of Planning and

Statistics tracked the basis of this response to the Anamuah-Mensah Education Review Committee Report (2002), which recommended that in considering teachers' applications for study leave, the Ghana Education Service should give priority to teachers who serve in deprived areas over those of urban teachers. According also to the headmasters and the respondents, teachers in rural and deprived areas in Ghana qualify for study-leave after serving for two years but they need to do an additional year to qualify for paid study-leave while their colleagues in urban schools must serve for four and five years respectively to be granted study leave. Study leave-with-pay has therefore become a strong motivation for teachers who wish to further their education and also retain their professional position in the employ of Ghana Education Service. This form of motivation is enticing more teachers to work in rural areas no wonder 62% of

the teachers responded that motivation is one of the key pull factors.

It is evident also from Table 1 that motivation in the form of incentives and rewards available to teachers in the two sampled schools constitute the second most important of the 18 pull factors that engender teacher retention in rural Afigya-Kwabre West district. This implies that 63% of the 120 teacher respondents were satisfied with what accrues to them on the job besides their remuneration, which corroborates the belief that incentives bring about job satisfaction and is a key factor in the stability of the teaching force and the commitment of the teacher to the teaching organization (Klecker & Loadman, 1996 as cited in Yeboah, 2014).

Further probing of this response through interview with the headmasters and Deputy District Director of Planning and Statistics revealed that teachers in Ghana (including teachers in the two sampled schools) enjoy several incentive packages that are meant to help retain them in the schools. These incentives include free meals, Parent-Teacher Association motivation allowance, extra classes allowance, awards given to teachers who have hard on speech and prize giving days, free accommodation, and the Otumfuo Teachers and Educational Workers Awards scheme. What is missing from the list of incentive packages designed to retain teachers in rural classrooms in particular, is the 20% of basic salary hardship allowance that was proposed by the Anamuah-Mensah Education Review Committee in 2002 to reward teachers in rural and deprived areas and also mentioned in The President's Committee on Review of Education Reforms in Ghana (2002) but is yet to be implemented (Adu-Gyamerah, 2011). As North (2013) posits, finding ways to motivate employees can be a challenging prospect for employers because individuals have different needs and expectations; dissatisfaction however, can lead to consequences such as high turnover and absenteeism. Motivation is the inner strength or the inspiration behind all actions, and most naked answer to why we do what we do (Danz, 2011).

Implementing this special incentive is most likely to motivate more teachers to accept rural posting to help bring equity in the national distribution of qualified teachers and bridge the widening gap between the quality of education in rural and urban Ghana towards increasing higher education opportunities for the student population in rural Ghana. Adedeji and Olaniyan (2011) have argued that a major incentive for teachers to be located in rural areas is the provision of housing. Indeed, the data in Table 1 indicates that staff accommodation on-campus is not the priority of teachers in the two rural Afigya-Kwabre West district, as this pull factor recorded only 46% of the total 120 responses.

Further probing of this issue through interview with the headmasters and Deputy District Director of Planning and Statistics revealed that only teachers who have been at post for five years or more are given school accommodation; teachers who have been there less than five years have to find their own housing in the local community. Consequently, many of the teachers who lived in Kumasi and its environs prior to accepting posting to Afigya-Kwabre West district decide to commute to school by public transport, which implies making round trips of about 40 km daily to satisfy their teaching requirements in most cases. According to the school heads and other teacher respondents, these teachers usually arrive late for first period lessons, they hardly engage in the schools' co-curricular activities, and hurriedly leave the school compound immediately classes end in order to avoid transportation difficulties for their return journey to Kumasi. In most cases, teachers who cannot withstand the pressure seek transfer from Afigya-Kwabre West district to join the staff of urban and peri-urban schools, which invariably reduces staff numbers in the rural schools and minimize the rural students' academic performance and achievement in the WASSCE.

The scenario validates Adedeji and Olaniyan's (2011) assertion that where teachers cannot live near the school, they are likely to spend a lot of time travelling, often to the detriment of their school work. Shelter is a major human need so when teachers are relieved of the problem of

shelter, they are more likely to get to school early and also give out their best in teaching (Orstein, 1995, as cited in Curzon, 1996; Mankoe, 2002). Constructing houses for teachers as Mulkeen (2005) suggests could motivate more teachers to accept rural posting and also stay in the rural areas to serve as academic role models for rural students to emulate. This perhaps, underlines the Anamuah-Mensah Education Review Committee's (2002) lists staff accommodation among the basic infrastructural facilities that the Ministry of Education should provide in order to create an environment that is conducive for the delivery of quality education in Ghana's senior high schools. By extension, the Afigya-Kwabre West District Assembly should complement national efforts to provide affordable and decent housing to attract and retain qualified teachers in their jurisdiction. The questionnaire responses in Table 1 also

indicate that lower cost of living that is generally associated with rural lifestyles, easy access to land for farming, which could serve as additional source of livelihood, ethnicity or the fact that a teacher is a native of the community, and marital issues scored very low responses, which implies that these variables have little or no impact on the sampled teachers' decision to work in this part of Ghana's rural environment. As the headmaster revealed some of their teachers remarked, "living in this area isn't that bad, it's more peaceful here"; "Kumasi is not very far away and I can bring what I need from there"; "I will qualify for study-leave with pay after three years and then I can get a school in Kumasi or somewhere close by"; "where there is life, there is hope for a better future". These sentiments imply a sense of hope for a better future.

Table 2: Identification and Description of Push Factor

Push Factors	% of total number of Responses
Socio-Environmental Push Factors	
Poor job, personal and property security measures	97.5
Lack of accommodation	42.5
Desire to get close to family	41.7
Inadequate teaching resources	32.5
Students' poor attitude towards learning	32.5
Inconvenience in furthering education	31.7
Poor living conditions	31.7
Lack of good schools for children	30.0
Lack of recreational centres	26.7
Difficulty finding courtship / partner of standards	12.5
Economic Push Factors	
Lack of other sources of income apart from salary	59.2
Poor remuneration	44.2
Inability to embark on extra / vacation classes	41.7
Delay in payment of allowances	24.2

Source: Field data, 2013/2014

Not surprisingly, security is also the topmost concern of the teacher respondents. It is the most significant push factor that would compel any

teacher in this rural setting to transfer from to an urban or peri-urban school. As seen from Table 2, lack or compromised security is the single most

influential factor that can induce a teacher serving in rural Afigya Kwabre West district to decide to transfer to an urban school. With 97.5% of the total responses given to the questionnaire, this response indicates that any threat (real or perceived) to the security of a teacher's job, person or property could compel them to vacate their rural teaching post.

With respect to the economic factors, Table 2 shows lack of additional sources of income (59.2% of total responses) as the next important push factor that can have adverse impact on teacher retention in rural Afigya-Kwabre West district and other rural Ghana environments. Lack of other sources of income as a push factor makes it clear that lack of opportunity to engage in other income generation activities to supplement a teacher's salary is a threat to teachers' acceptance of rural posting as well as their decision to stay in the rural area. According to the headmasters, many business opportunities exist for teachers in urban areas, mostly as "contract home teachers" who offer extra tuition for students outside school hours and on weekends and school holidays. Home teaching on contract or itinerant basis, it was learned, is very lucrative and fetch some SHS teachers more money than their monthly salaries.

Consequently, some teachers prefer posting to urban schools where they find it easy to engage in teaching and other income-generating activities to supplement their incomes. Among the many comments made by the headmasters of the schools on this issue were: "home teaching and holiday classes in Mathematics, English language, Biology, Physics and Chemistry is the most attractive business for teachers in towns and cities; even teachers who live in Kumasi and work in rural schools also do it on part-time basis"; "good teachers are not easy to find so we try to make our teachers happy so they remain with us longer by giving them some small incentives and rewards but you know that no matter what you are able to give, individual differences play up and our best doesn't please some teachers so they leave"; "incentives don't work the same way with everybody so we just hope our teachers would appreciate the extras we provide but you cannot prevent any teacher from going away so we do our

best to retain our teachers so our schools can also do well and move up the schools' WASSCE league table".

The implication is that a teacher could accept posting to a rural school but end up transferring to an urban or peri-urban school if they are unable to supplement their salaries by any means, which would worsen the staffing situation in that rural school, compromise the students' learning of that particular teacher's specialized subject and the students' achievement in the West Africa Senior Secondary Certificate Examination (WASSCE). The ripple effect seems to be the lowered student learning and performance in the WASSCE, lowered standard of education in rural areas, poor grades obtained by rural SHS students in WASSCE, and the exclusion of the large majority of rural SHS graduates from participating in higher education in Ghana due to poor WASSCE grades (Opoku-Asare & Siaw, 2015; Asihene, 2009; Siaw, 2009).

The fact that security and lack of opportunity for teachers in this rural community to supplement their salaries could induce a rural SHS teacher to transfer to an urban area is quite threatening. This finding reflects the Herzberg two-factor theory (Yeboah, 2014) which indicates that a lack, absence of or poor attention given by the management of any organization to hygiene or maintenance factors such as employee security, can bring about unpleasantness or dissatisfaction. The notion that employees who become dissatisfied with their working conditions could vacate their post reinforces the Equity theory that if workers perceive a level of inequity or unfairness when they compare their work situations to that of others, they could have the motivation to change the situation in order to generate, at least in their minds, a much better or more accurate sense of fairness, which could lead to employees working less hard or even quitting the job. This scenario calls for adoption of urgent measures to improve the living and working conditions of teachers who serve in rural areas so they could be retained in the rural classrooms raise the standard of education in rural areas of Ghana.

VII. EFFECT OF PULL AND PUSH FACTORS ON RURAL SHS STUDENTS' ACADEMIC PERFORMANCE

Based on the adopted definition of 'pull' and 'push' factors as the factors that attract teachers to stay in rural areas and the factors that induce teachers to vacate their rural teaching posts respectively, "vacated post" (VP) has been used to represent push factors whereas "non-vacated post" (NVP) represent the pull factors. In assessing the effect of pull factors (Non-vacated Post) and push factors (Vacated Post) on the academic performance of the sample SHS students in the two Afigya-Kwabre West district schools, it was realized that the effect could be an increase (positive effect) or a decrease (negative effect). The basis for the rating of the students' performance was the 2008-2009 and 2011-2013 WASSCE results of the two schools, and other official records on teachers who vacated post in the various subjects in which the students wrote

WASSCE. These records were obtained from the Heads of the two schools.

It must be emphasized that no WASSCE took place in 2010 because the then three-year SHS program had been extended to four years in 2007 (Yeboah, 2014), which required that the final-year students of the three-year program stay on for another year. Consequently, students who entered SHS in 2007 completed in 2011, the 2008 batch completed in 2012, and the 2009 batch completed in 2013. The 2008 and 2009 WASSCE results represent the output of students who entered the three-year program in 2005 and 2006 respectively.

The effects of the pull factors (attributed to Non-Vacated Post) on the academic performance of students of the two sampled schools were identified as potential agents for causing an increase (positive effect) or a decrease (negative effect) in students' academic performance in particular WASSCE subjects.

Table 3: Effects of Pull Factors on Students' Academic Performance

EFFECT	SCHOOL A SUBJECT AREAS				SCHOOL B SUBJECT AREAS				RESULT	
	2008 2009	2009 2011	2011 2012	2012 2013	2008 2009	2009 2011	2011 2012	2012 2013	TOTAL	%
Non-vacated Post	16	17	15	17	20	21	21	18	145	100
Positive	16	16	7	7	6	21	12	7	92	63.4
Negative	0	1	8	10	14	0	9	11	53	36.6

Source: Field data, 2013/2014

Table 3 reveals that in 2008, out of the 16 subjects in which no teacher vacated post in School A, only positive effects (16) were recorded in all the 16 subjects that reflected in the students' WASSCE results for 2009. However, in that same year 2008, out of the 20 subjects in which no teacher vacated post in School B, 14 negative and six positive effects were recorded to explain the students' performance in the respective subjects in which they wrote the 2009 WASSCE. Moreover, in 2009, out of the 17 and 21 subjects in which no teacher vacated post in Schools A and B respectively, only one (1) negative effect and 16 positive effects were recorded in School A's 2011 WASSCE results. On the other hand, all 21 subjects recorded positive effects in School B's

2011 WASSCE results. In 2011, out of the 15 and 21 subjects in which no teacher vacated post in Schools A and B respectively, 8 negative and 7 positive effects were recorded in School A's 2012 WASSCE results while School B recorded 12 positive and 9 negative effects respectively in the 2012 WASSCE as shown in Table 3.

Also, in 2012, out of the 17 subjects in which no teacher vacated post in School A, 10 negative and 7 positive effects were recorded in the 2013 WASSCE results for those subjects. In the case of School B, Table 3 shows that in 2012, 11 negative and 7 positive effects were recorded in the 2013 WASSCE results for the 18 subjects in which no teacher vacated post in School B. Furthermore, Table 3 reveals that from 2008 to 2013, 53

negative effects (constituting 37%) and 92 positive effects (constituting 63%) of the cumulative effects that were recorded in the WASSCE results for the two schools.

This suggests that if SHS teachers in rural areas do not vacate post, more positive effects are likely

to be recorded in WASSCE than negative effects. There is therefore a high probability of rural schools recording increased students' academic performance in the WASSCE if SHS teachers in rural areas are motivated to stay.

Table 4: Effects of Push Factors on Students' Academic Performance

EFFECT	SCHOOL A SUBJECT AREAS				SCHOOL B SUBJECT AREAS				RESULT	
	2008	2009	2011	2012	2008	2009	2011	2012	TOTAL	%
	2009	2011	2012	2013	2009	2011	2012	2013		
Vacated Post	5	4	8	5	4	3	5	6	40	100
Positive	5	3	1	0	2	1	1	0	13	32.5
Negative	0	1	7	5	2	2	4	6	27	67.5

Source: Field data, 2013/2014

Table 4 shows that in 2008, five teachers vacated post in School A but no negative effect was recorded in the subjects that were handled by those teachers in the 2009 WASSCE results. That same year 2008, four teachers vacated post in School B and the school recorded two (2) negative and two (2) positive effects in the 2009 WASSCE results for those subjects that were handled by those four teachers.

In 2009, where four teachers vacated post in School A, the 2011 WASSCE results showed one (1) negative and three (3) positive effects in the subjects that were handled by those teachers. On the other hand, School B lost three teachers in 2009 and recorded one (1) positive and two (2) negative effects in the subjects which were handled by those three teachers in the 2011 WASSCE results as shown in Table 4. It can also be seen from Table 4 that in 2011, eight teachers vacated post in School A and the school recorded seven negative and one positive effects in the subjects that were taught by seven of those teachers in the 2012 WASSCE results; one subject was not examinable at WASSCE.

Again in 2011, five teachers vacated post in School B, which yielded one positive and four negative effects in the subjects that were handled by those teachers in the 2012 WASSCE results. Moreover, in 2012, five teachers vacated post in School A. This resulted in five negative effects with respect

to the subjects which were taught by those teachers in the 2013 WASSCE results as exhibited in Table 4. In the same year 2012, six teachers vacated post in school B. As such, the school recorded negative effects in all six subjects taught by those teachers in the 2013 WASSCE results as shown in Table 4.

It is evident also from Table 4 that between 2008 and 2013, 27 negative effects (constituting 67.5%) and 13 positive effects (constituting 32.5%) of the cumulative effects were recorded overall for the two schools. This suggests that when SHS teachers in rural areas vacate post, more negative effects are likely to be recorded than positive effects in WASSCE results. Hence, there is a high probability of a decline in students' academic performance when their teachers are not motivated enough to stay.

The heads of the schools concurred on the issue of teachers and WASSCE with one of them lamenting the fact that getting replacements for teachers who transfer or vacate post just before WASSCE is written is the nightmare of school heads, particularly if they are in rural schools". According to them, if a teacher who handles Form 3 or Form 4 leaves while their students are being prepared for WASSCE brings much pressure to bear of them because rural schools hardly have their full complement of teachers for both the core and elective subjects, confirming Owusu-Afriyie's

(2009) assertion that finding specialist teachers in certain subjects is a difficult task in Ghana.

Knowing that WASSCE determines SHS graduates' participation in higher education in Ghana (Opoku-Asare & Siaw, 2015; Atuahene & Owusu-Ansah, 2013) makes it very necessary for the Ministry of Education and the Ghana Education Service to implement measures such as the implementation of the proposed 20% of basic salary as hardship allowance to motivate teachers who work in schools that are located in rural and deprived communities of Ghana (Anamuah-Mensah, 2002; Adu-Gyamrah, 2011; Amoako, 2011).

VIII. CONCLUSION AND RECOMMENDATIONS

Although the study was based on a small sample of teachers and schools located in one district in Ghana, the data presented point to the presence of many push and pull factors that could influence SHS teachers in Afigya Kwabre West district of Ashanti region and other parts of rural Ghana to vacate their teaching posts and relocate to schools in urban and peri-urban areas. The research findings indicate that security concerns, lack of motivation and low-income levels can take teachers away from rural Afigya-Kwabre West district of Ashanti region and negatively affect educational standards in the area. Student performance in WASSCE in particular, raises much concern because regardless of a school's location in the rural or urban setting, all final-year SHS students in Ghana are required to write WASSCE, which is the entry qualification that largely determines SHS graduates' participation in higher education in Ghana (Osei-Mensah, 2012; Asihene, 2009).

As Quist (2003) has indicated, Ghana regards secondary education as the most readily available form of higher education that is capable of nurturing higher levels of literacy, increasing education on political practices, strengthening democracy, and producing middle level manpower for national development. The fact that some Senior High School teachers are not willing to accept posting to rural areas and are unable to

extend their stay in rural Ghana is therefore worrying with respect to the high rate of illiteracy in rural areas where the majority of the population resides and also in terms of the expectation that rural populations in Africa will keep rising and lead to increased demand for teachers in rural schools (United Nations Development Planning, 2009). It is possible, or likely that what was found in the singularity (the sampled District) will be found in similar situations elsewhere. As such, the government of Ghana would have to provide the necessary educational resources and infrastructural development to improve the service conditions of SHS teachers in rural Ghana so that enhanced job satisfaction would attract and retain more qualified teachers to help bridge the widening rural-urban gap in secondary education (Anamuah-Mensah Review Committee Report on Education Reforms, 2002).

Moreover, inequitable distribution of economic and educational resources across different parts of Ghana that has led to wide rural-urban disparities in the quality of education and student achievement, particularly in the West Africa Senior Secondary Certificate Examinations, is too glaring when this is viewed in relation to the skewed participation of more urban SHS graduates in higher education in Ghana to the detriment of their peers in rural schools (Siaw, 2009; Kwame Nkrumah University of Science and Technology Planning Unit, 2009). This validates Duncan-Adanusa's (2006) assertion that teachers' refusal to accept posting to rural schools has contributed to a depression in the quality of secondary education in Ghana.

Not having qualified teachers to direct students' learning in rural areas has direct negative consequences for schooling effectiveness in Ghana, therefore, bridging the rural-urban gap in educational development is more likely to motivate more qualified teachers to be dedicated to staying and working in rural areas. Rural areas already experience deficits of qualified teachers (The President's Committee on Review of Education Reforms in Ghana, 2002) so proactive measures ought to be implemented in Ghana to facilitate acceptance of rural posting and also

sustain SHS teachers' motivation to stay in the rural areas to promote student learning and achievement in rural schools such as in Afigya Kwabre West district of Ashanti region.

Qualified SHS teachers also constitute a core competitive asset for the Ministry of Education and Ghana Education Service to ensure attainment of quality secondary education in Ghana. This makes it necessary for the two agencies to evolve more pragmatic measures to improve the motivational level of the teachers in order to sustain their commitment and thereby attract more qualified staff to the rural Senior High Schools across the country. The authors recommend that the Government of Ghana implements the proposed 20% of basic salary incentive for teachers who accept posting to rural and deprived areas of Ghana at least, to compensate for the lack of additional sources of income. This incentive can also boost teacher satisfaction and encourage teachers to work harder to bridge the rural-urban gap in educational standards and student achievement in Ghana.

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