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Teacher Absenteeism and the Perceived Reasons for its Effect on
Student Achievement in Three Barbadian Secondary Schools

by

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Submitted in partial fulfilment of the requirements for the degree of
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Abstract

This thesis investigated the reasons for teacher absences, and how it has impacted on student achievement in the core subjects at three suburban secondary schools in Barbados using a cross-sectional survey research design which included teachers and students. The study focuses on four research questions: Which reasons do teachers give that contribute most to their being absent from work at three Barbadian Secondary Schools? Are there significant differences in the reasons for absenteeism based on specific teacher characteristics? What are students' perceptions of teachers' absenteeism at three Barbadian Secondary Schools? Do teacher absences impact upon student achievement in the core subjects at three Barbadian Secondary Schools? Does the relationship between teacher absenteeism and student achievement differ between teachers with diverse characteristics at three Barbadian Secondary Schools? Data were collected on self-reported paper and pencil questionnaires, teacher absence data and student test scores. There were forty-five closed and one open-ended question on the teacher questionnaire, and twenty-five closed and one open-ended question on the student questionnaire. Open responses by teachers revealed that absences were mainly due to personal circumstantial factors. Students however, believed that their teachers were absent because they did not want to work. Correlation analysis determined that a moderate negative, linear relationship exists between teacher absence and student averages in English, Integrated Science and Spanish at Schools A and C. A moderate, negative relationship also existed between teacher absences and student averages in Social Studies at School A, but a strong positive relationship at School C. A weak negative relationship was discovered for Math at School C, with a moderate relationship at School A. All correlations were statistically significant. These negative statistically significant relationships

support previous research by (Brown and Arnell 2012; Bruno, 2002; Obeng-Denteh, Yeboah, Sam, & Monkah, 2011; Scott, Vaughn, Wolfe, & Wyant, 2007; Speas, 2010) and other researchers who also discovered similar relationships. Multivariate regression analysis ascertained that total teacher absence in the core subjects of Integrated Science, Math, Social Studies and Spanish negatively impacted student averages. These findings suggest that the more absent days taken by the teacher in the core subjects, the lower their students' averages will be. Conversely, teacher absences had a significant positive effect on student averages for English. This finding was not expected and indicates that there are other variables besides teacher absence which contribute to low student achievement.

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Chapter 1

Teacher Absenteeism and the Perceived Reasons for its Effect on Student Achievement in Three Barbadian Secondary Schools

When workers are continuously absent, it can be disruptive to any organization, leading to lower levels of productivity (Herrmann & Jacobs Rockoff, 2010 & Kritsonis, 2007; Whitehead, 2009; Zuckerbrod, 2008). It is therefore important that employers determine the work-related factors which might be influencing employee absenteeism (De Boer, Bakker, Syroit & Schaufeli, 2002). Two such factors for worker absence were identified by De Boer et al. (2002) based on previous empirical research. These were the withdrawal from aversive conditions at work, and stressful work conditions (De Boer et al., 2002). The effects of these absences in teaching can be far reaching, with long term consequences which can prove to be a barrier to student learning (Goldstein, Little & Akin-Little, 2003). Therefore, with schools having to cope with teacher absence annually, the quality of instruction students receive across schools will be significantly compromised (Jacobs & Kritsonis, 2007). This thesis on teacher absenteeism and student achievement will therefore investigate these issues at the three schools as they relate to the literature. This Chapter presents the aim of the study, the statement of the researched problem, and the importance of the study. It then provides an outline of the Barbadian school context, which is followed by an evaluation of teaching as a profession. The theoretical framework which guides the study is then presented.

Aim of the Study

Teacher absenteeism continues to be a major concern to educational institutions worldwide and is also increasingly becoming a growing problem in the Barbadian school system. The aim of this small scale exploratory research study therefore, is to determine whether these teacher absences have been impacting upon student achievement in the core subjects at three Barbadian Secondary Schools. Exploratory research is being used as such research mainly explores the stated research questions with the goal of understanding what problems exist, without making definite decisions on information discovered.

Statement of the problem

As a teacher at one of the schools in the research, I have found that within the last three years there has been a notable increase in teacher absenteeism at the school. Where it was the norm for one or two teachers to be absent on a given day that number has now increased to five to ten teachers being absent on any day. Although some teachers know that they have surpassed their allowed number of sick days, they still continue to be absent even calling to say that they will be absent long after the official start of the school day. Most significantly, in the end of year student examinations, there appears to be a decline in the scores being obtained by many of the students in the core subject areas. I therefore found it necessary to find out if there was a relationship between teacher absences and student achievement in the core subjects at the school, or if there were other factors influencing the students' achievement.

Importance of the study

This study is of importance as most studies on teacher absenteeism look at absenteeism outside of the Caribbean, with a major emphasis on developed countries. While some studies offer some insight to teacher absenteeism in developing countries, the focus is on the larger ones. The literature shows no known study of teacher absenteeism in Barbados, and where Barbados is a developing country, the policy and procedures for coping with teacher absenteeism may differ to those in developed countries. This study should therefore provide the necessary information to fill this gap which is lacking in absenteeism data from this region. Also, the information gathered from this study should inform those in authority at the Ministry of Education in Barbados who are responsible for the collection of teacher absence data, as to the absenteeism in the three schools. This would then assist Ministry officials in understanding the reasons for teacher absences and how these absences impact student achievement at three of the Barbadian secondary schools. The Ministry of Education would also be informed as to how students feel when their teachers are absent. This would then give them the opportunity to work with the schools to eliminate this problem through the implementation of any new policies which might be necessary.

The Barbadian School Context

Unlike the larger countries, in the Barbadian school system there are only seventy-one government Primary schools along with several other privately operated ones, twenty-three government secondary schools, four private secondary schools, along with four tertiary level institutions. At age eleven, students from the Primary school take a National Common Entrance

Examination for placement in a Secondary School, and at age fifteen they sit further regional and international examinations on the completion of their secondary education programme. To emphasise its commitment to quality leadership in the educational system, the Ministry of Education (M.O.E) advocates as part of its mission that “Quality leadership provides the direction for raising school achievement” (M.O.E) to ensure that schools “remain a place of quality learning and teaching” (M.O.E Barbados). The local Ministry of Education oversees the supervision, organization and execution of the national curriculum at all Primary and Secondary schools in Barbados. There were however, some areas in the Barbadian educational system which were recognized as needing some attention, and as a result, the local educational system was restructured to meet the varying requirements of the economy internationally, while enabling students to be more prepared for the competitive jobs in a global technological economy. With the introduction of the “White Paper on Education Reform: Preparing for the Twenty-First Century”, in July 1995, the paper gave an outline of those reforms which would be implemented to enhance education both at the Primary and Secondary level through the EduTech initiative (Pirog & Kioko, 2010).

Within this Ministry, there is a School Attendance Unit which is a part of a section of ‘student services’. In this unit there is a senior attendance officer and three school attendance officers. It is the responsibility of this unit to make sure that school aged children 5 – 16 years of age attend school on a regular basis. Where children are absent for prolonged periods, these officers visit homes to enquire about these absences. They also patrol the bus terminals daily to ensure that students are not loitering, and this is done along with a member of the Royal Barbados Police Force to ensure compliance (Ministry of Education, Youth Affairs and Culture, 2000).

The Barbadian school system, allows permanent teachers twenty-one days sick leave per year with temporary and part-time teachers being allowed fourteen days as laid out in the Civil Service Act of Barbados. This allocated sick leave is for both certified and uncertified sick leave. In instances where additional time is required, sick leave may be extended by the authorization of the Chief Personnel Officer of the Personnel Administration Division. Where sick leave taken by a teacher goes beyond six months, a request can then be made by the principal of the school to the Ministry of Education to have the teacher examined by a Medical Board (Luke, 2000), to determine the seriousness of the illness and what action may be taken. Although school Principals have this option of reporting continuously absent teachers to the Ministry of Education, this option does not appear to be used where necessary. As a result, teachers continue to exceed their allowed quota of sick days knowing that they will face no sanctions.

In the Barbadian context, teachers see themselves as being in a profession, and even though they are referred to by persons as professionals because of the rules that govern them, and the certification that is expected, the status of a professional is still not awarded to them as a body. This issue however, is not only a Barbadian problem, but one that exists with teachers worldwide, and as the Barbadian educational system is replicated from the British educational system, teachers are workers of the state, like their British counterparts. Their employment, training, teaching credentials, payment and promotion are controlled by Government along with Boards of Management which ensures that the Ministry's policies are implemented (Tull, 2012). This therefore does not give Barbadian teachers the autonomy to make their own decisions as in other professions.

Teaching as a profession

A profession is understood as being a controlled group of persons with a dominance of specialized knowledge which is valued by a society. The members of the profession then set the standards which govern and maintain their performance and accountability which comes in the form of a license or certification, along with the legal liabilities associated with it (Buijs, 2005). In a profession, because of the ethical guidelines which frame the standard of performance of its members, a claim for remuneration for work done, and a fee for performing a service, is seen as an “entitlement and right” (Buijs, 2005, p.329) by the members, as their level of expertise must be exemplary if they are to maintain the certification (Buijs, 2005).

There is a general perception of teaching, as being a profession (Buijs, 2005). However, Buijs (2005) advances that at the K-12 level; teacher associations are responsible for the certification and code of conduct of teachers. Yet, when work of a professional nature is being discussed about Primary or Secondary school teachers, its main focus is on the freedom the teacher has in determining how he/she will teach the class based on the curriculum (Gambell, 1995; Henderson, 1992, cited in Buijs, 2005). Although teachers might wish to see themselves as being in a profession, they share little similarities with other recognized professions. It is based on these ‘freedoms’ that exist with teachers, that it becomes difficult to equate them with other typical professions such as ‘medicine, law or engineering’ (Buijs, 2005, p331). In education, some teachers who teach in specialist areas see themselves as subject specialist within the subject area, as well as those who are academic researchers. This however, does not apply to the regular teacher or those who perform administrative roles, as these skills or knowledge that these teachers hold will only apply to them in their area of specialization and not to the general teaching body. This is because even though there may be some similarities, there is still an

identifiable difference between what is taught and how it is taught by the teacher. It is not only about having specialized skills and knowledge in the area in which the teacher will teach, the effective teacher must also have pedagogical expertise. Buijs (2005) is of the view however, that teaching should still be regarded as a profession and argues that as most teachers do possess the necessary competencies for the job, they should also be able to maintain autonomy and dictate how and what they will teach and are justifiable in asking for payment for the work they do as professionals (Buijs, 2005). He goes further and adds however, that if we see teaching as a profession, it will be a determining factor in how we relate to our students, our colleagues and the way we see ourselves as members of the institution where we work (Buijs, 2005).

Theoretical Framework

Some studies show a direct association between teacher absences and student achievement (Browne & Arnell, 2012; Clotfelter, Ladd, & Vigdor, 2007; Harris-Van Keuren, Steiner-Khamsi, Omoeva, & Shiotani, 2009; Miller, Murnane & Willet, 2007), whilst Ehrenberg, Rees, & Ehrenberg's (1991) study show no association. Various models have been proposed by researchers to measure absenteeism in the workplace. However, the most frequently used model in absenteeism research is the Steers and Rhodes (1978) process model of employee attendance. This model summarizes those factors which would cause an individual to be absent from work. Researchers Steers and Rhodes (1978) concluded that that job satisfaction was the major factor in employee attendance. It also stressed that the organizational practices and an absence of a culture, the attitudes of employees and the goals and values of the organisation are all contributing factors to absenteeism. Additionally, the model further suggested that the two main factors which determined employee attendance were motivation and the capability to come to

work. They maintained that if an employee is satisfied with the job they are doing and motivated to be present, and if the objectives of the organization are desirable, whereby he/she wants to be a part of helping to achieve these objectives, they will be present. Also, if this same employee is pressured both internally and externally to come to work through incentive rewards, and through a commitment to the organization by those in authority over them, they will come to work (Steers & Rhodes, 1978). Researchers Santiago, Guerrero, Leon and Leon (2010) viewed previous models of employee absenteeism proposed by “Steers and Rhodes, 1978; Broke, 1986, & Rhodes and Steers, 1990” (p. 4) as being related to employee values and job satisfaction and expectations. They argued that these models left out important variables such as those proposed by “Chadwick-Jones et al., 1973, 1982, & Geurts et al., 1994” (p.4) which are related to the social norms and relations of persons inside the organization. These models propose that the demographic and contextual characteristics of the employee affect absenteeism indirectly, through their job satisfaction, expectations and the social norms and relations of persons inside of the organization. Santiago et al. (2010) refer to models of absenteeism proposed by Scott and Wimbush (1991) and researchers Rosenblatt and Shiron (2005) who also developed models of absenteeism also based on the previous model of absenteeism advanced by Steers and Rhodes (1978). In these frameworks, according to Santiago et al. (2010), they have added the demographic characteristics of the employee which they consider as being important in any model of absenteeism. These include teacher level, school level and the contextual level variables in determining teacher attendance. In the teacher level variables, the age, educational level, race and gender of the teacher and whether they are satisfied or committed to the job are seen as factors which influence teacher attendance. School level variables which encompass the working norms within the school, the leadership style of the Principal, the level of supervision

from the local Ministry of Education or School District and how the school functions within the community are also expected to influence teacher attendance. Most contextual level variables according to Santiago et al. (2010) do not identify a clear effect on teacher attendance. They acknowledge that this might be a result of the models being based on research being done in developed countries and rarely in developing ones, as findings from previous research done in developing countries show that the work environment of the teacher is an important issue (Santiago et al., 2010). The present study proposes to use the three factors of teacher level variables; contextual level variables and school level variables as proposed by Santiago et al. (2010) as a guide to form a framework for the study. The framework for the current study sees teacher level variables as (the personal reasons that might cause the teacher to be absent, the job satisfaction and motivation of the teacher, and the experience level of the teacher); the school level variables as (the policies of the school and the Ministry of Education as they relate to teacher absenteeism, Staff relations, the leadership style of the Principal); as well as the contextual level variables as (the school culture and the school within the community) as being the most important factors in determining teacher absenteeism at three Barbadian Secondary Schools.

The thesis is divided into six chapters. Chapter 1 gives the introductory background to the research. This is followed by Chapter 2 which is the review of literature that highlights some of the main issues which schools face because of teacher absenteeism. The research questions guiding the study are then stated. Chapter 3 then describes and justifies the research method used. The following Chapter 4 presents an analysis of the collected data which was used in the research. This is followed by a presentation of the findings and discussion in Chapter 5. In the final section, Chapter 6 is the conclusion of the research along with recommendations made.

The discussion on teacher absenteeism continues to be an area of much concern to Educationalists and Researchers alike as it relates to teachers and teaching (Porres, 2016). There is varying evidence which suggest that teacher absence directly impacts student achievement (Brown & Arnell, 2012; Bruno, 2002; Burris, 2002; Clotfelter et al., 2007; Das et al., 2007; Finlayson, 2009; Jacobs & Kritsonis, 2007; Miller et al., 2007; Pitts, 2010; Robinson, 2008; Rogers & Vegas, 2009) Further, most research assume that all children have similar learning experiences and will learn in the same way (Tuerk, 2005) once they are taught by a teacher. The following literature review aims to shed some light on these contentious issues in this area of teacher absenteeism and student achievement as observed in both developed and developing countries.

Chapter 2

Literature Review

Teacher Absenteeism

Teacher absenteeism has been defined by Robinson (2008) as any type of absence by the teacher from the classroom for either personal or professional reasons. These personal absences are those which were initiated by the teacher themselves, whilst professional absences were due to school, district or government related absences (Robinson, 2008). This chapter will discuss the following areas as they relate to teacher absenteeism and student achievement. a) First, the issue of teacher absenteeism is discussed, b) The following section looks at what can be done to improve student achievement c) The effects of teacher absenteeism is then explored d) This is followed by an overview of the reasons for teacher absences. e) Student achievement is then discussed highlighting its association with both teacher absenteeism and student absenteeism.

Despite great demands being placed on schools for greater efficiency and productivity, schools continue to suffer from absenteeism (Alcazar, Rogers, Chaudhury, Hammer, Kremer, & Muralidharan, 2006); Chaudhury, Hammer, Kremer, Muralidharan, & Rogers, 2006; Clotfelter et al., 2007; Jacobs & Kritsonis, 2007; Whitehead, 2009; Zuckerbrod, 2008). For these reasons, teacher absenteeism is seen as the main reason for the wastage in educational investment (Abadzi, 2007), and as a whole, it far outnumber the amount of absences taken in many other professions (Pitkoff, 1993). Ramsey, Punnett, and Greenidge (2007) assert that where a country becomes known for its high level of worker absence, it can be detrimental to how it is perceived worldwide. These absences may be “unpredictable and chronic” (Hammond & Onikama, 1997, p.2), and lead to “a host of problems at all levels of the education system” (Hammond &

Onikama, 1997, p.3). This wasting of instructional time by absent teachers should be of utmost importance for those concerned with financing education, as students are being deprived of the time needed to further their education (Abadzi, 2007) and it is also a waste of valuable resources of already strained national education budgets (Harris-Van Keuren, et al., 2009). Moreover, it was found in the United States of America, that due to teacher absenteeism, more than a year of the education of elementary students was given by a substitute, instead of the regular teacher (Brown & Arnell, 2012; National Council on Teacher Quality, 2008; Pitkoff, 2003). This situation has caused Owen (2010) to advance that this excessiveness must be due in part to other fundamental problems within the particular school. These problems may be a result of both external and internal influences, which may include “morale, leadership and support” (Keller, 2008, p.39). These problems will in turn have a significant influence on teacher characteristics.

It is the social, cultural and procedural conditions at work which have a direct influence on how an individual behaves. Some of these influences may be positive and some negative, and teacher performance is based on these influences (Leithwood, 2006). The characteristics of the organization along with those of the individual, such as age, gender and the amount of years’ experience, are all contributing factors to teacher absences (Cheng, 2013), which has now become a major problem worldwide. In many developing countries, schools are faced with the challenge of providing a sound education for its children. However, these efforts are often frustrated with the frequent absences of many of its teachers (Alcazar, et al., 2006; Chaudhury, et al., 2006; Clotfelter, Ladd, & Vigdor, 2007; Ivatts, 2010; Jacobs & Kritsonis, 2007; Miller, Murnane, & Willet, 2007; Zuckerbrod, 2008), which sometimes can lead to the closure of schools due to their unavailability.

The problem of teacher absences have impacted on several areas in education, with huge monetary losses to educational systems being noted, amounting to over half of the allocated budgets for public schools (Miller et al., 2007) as both the regular teachers and substitutes are paid (Pitkoff, 2003). Based on the assumption that when a teacher is absent a substitute is allocated, Times Educational Supplement (30 September, 2000) estimated that in 1999 it cost the English government £300, 000,000 on teacher absences. Further, recruiting substitutes for absent teachers proved to be problematic for some head teachers in some areas of England (Bowers, 2001).

In a CSE Technical Report, authors Herman and Gribbons (2001) advocate that in an effort to curtail this problem of absenteeism, “the general public and those responsible for setting policy” (p.1) are now insisting that high standards must be achieved in all schools to benefit all children, with evidence being produced of such. Thus, to accomplish this, Herman and Gribbons (2001) further suggest that it will be pertinent for schools to analyze their performance benchmarks which were set for their students to establish the degree of success. Student performance can then be gauged to check for improvement over the previous years and how their performances compare with each other. To reduce any impact of teacher absence on student achievement, many United States school districts have responded to this call for accountability by encouraging their teachers to reduce the number of absent days so that their schemes of work can be completed in an appropriate time frame, so that students would not be academically disadvantaged in the mandatory state tests (Miller et al., 2007; Owen, 2010).

Various reasons have been advanced to explain these occurrences of absenteeism, such as heavy workloads and stress (Carter, 2010; Grant, 2010; Haberman, 2004; Naylor, 2001), “weak management and poor labour-management relations” (Miller et al., 2007, p.2), “distance to work,

gender, job involvement, and overall job satisfaction” (Scott & Wimbush, 1991, p. 506), dire health, family responsibilities, and problems with transportation (Steers & Rhodes, 1978). Yet little has been done by those in authority to curb it (Carter, 2010). This has resulted in substantial instructional loss to students in many countries where substitute teachers have to be called in to replace absent ones (Carter, 2010; Duflo & Hanna, 2005; Pitkoff, 2003; Pitts, 2010). This has led Pitts (2010) to suggest that “teacher absenteeism has the potential to be very costly in terms of student achievement” (Pitts, 2010, p.1) as many of the substitute teachers lack the necessary skills or certificates to teach the students that they have been asked to supervise (Carter, 2010; Pitts, 2010). There is also a delay in the covering of the curriculum with an interruption in the everyday classroom practice (Cheng, 2013). Although this might not be the best situation, the hiring of teachers for short contract periods to replace absent ones have now become the norm in many school systems worldwide. This is especially so in Africa, the United States of America, South Asia and areas of Latin America, with Chile employing up to 20% of them (Kingdon, Aslam, Rawal, & Das, 2012). This frequent loss of instruction by the regular teacher has led Sanders (1999) to advance that if you want to know the value of the teaching in a school, you can determine this by looking at the midway results of how the students are performing. Therefore, if students are to succeed in school, the quality of instruction will be important. For as Whitehead (2009) puts it, the teacher represents stability both in the school and in the community as they contribute to the educational development of their students and teach them the important values necessary for the well-being of society.

Improving Student Achievement

Therefore, it will be the type of leadership existing at the school, along with the quality of teaching that is seen as the most significant variables which will decide the value of the education being given in schools (Bush, 2005), as it will impact on student achievement directly in the classroom or indirectly when they are not able to function in society (Luyten, Visscher, & Witziers, 2005). Furthermore, where the Principal supports the teacher and gives guidance on lesson planning and coping with difficult children, this is an important influence on their performance both inside and outside of class (Leithwood, 2006), as constructive feedback from one's manager motivates the employee to achieve their work goals (Schaufeli & Bakker, 2004).

With that in mind, the actions of teachers will also depend on whether they are motivated to attend, whether they are able to and the type of working conditions they face. Moreover, poor working conditions will only serve to undermine all attempts to improve student achievement, for as Leithwood (2006) puts it "what teachers actually do in their schools and classrooms depends on how teachers perceive and respond to their working conditions" (p.8).

Accordingly, improving student achievement will be a collective task of policy makers, school administrators, the community, parents and teachers. However, it is the actions of teachers which will ultimately take precedence over all others concerned (Ivatts, 2010; Leithwood, 2006), as teachers play the most vital part in a student's education (Yee, 2007). Consequently, Harris-Van Keuren, et al. (2009) assert that the emphasis now being placed on teacher absenteeism is mainly due to the acceptance that it is the qualified professional teacher who determines the quality in education and their students' achievement (Harris-Van Keuren, et al., 2009), as the way we perceive teaching influences the manner in which we teach (Hare, 1993,

cited in Buijs, 2005). Therefore, if teachers are often absent it shows that they lack professionalism and are putting a further strain on the national education budgets (Harris- Van Keuren, et al., 2009).

This lack of professionalism comes to the fore when Teachers at schools with disadvantaged children record the highest absences when compared to those teaching at the regular high schools (Clotfelter et al., 2007). Such high absentee figures in the Santé Fe school district have caused the Santé Fe Public Schools superintendent to call the situation ‘startling’, with the school board president seeing it as ‘incredible’. These comments came after an analysis of the school system in the district revealed that in the 2011 – 2012 school year, teachers there recorded absences of seventeen days which was nearly that of the national average. This caused a board member to add that either they were hiring persons who were sickly or unhappy at work, which was making them stay at home. He did however, strongly insist that if the students were to be present for school so should the teachers (Last, 2012).

More recently, Joseph, Waymack and Zielaski (2014) report on a study done by the National Council on Teacher Quality in the U.S.A, where teachers in 40 of the largest School Districts were inspected. It was found that during the period 2012 – 2013 a significant 16 percent of these teachers were classified as being “chronically absent teachers” (p.1), as they had been absent for “18 days or more in the school year” (p.1). This startling revelation has led Joseph et al. (2014) to assert that “No matter how engaging or talented teachers may be, they can only have an impact on student learning if they are in the classroom” (p.1). They further assert that if the teacher being present for class is related to student achievement, it must follow that if teachers are often absent the achievement level of their students will suffer significantly. This

underscores Brophy's (1988) argument that supervision by teachers is important to stimulate and regulate student learning so that they progress further than they would on their own.

The Effects of Teacher Absences

The effect of teacher absences was clearly seen in Peru where teacher absenteeism may have adversely affected government schools in terms of parental choice, because where there was a high measure of absenteeism in a government school, there was always a private school nearby where there was a reduced level of students (Chaudhury, et al., 2006). Yet head teachers made little effort to ensure that they did not lose their students to the private schools due to this constant absenteeism. To make matters worse, the teacher absences were mostly found in the poor and rural areas where the children were already low achievers. Similarly, this pattern of absenteeism obtained in a multi-country study conducted by Abadzi (2007) where high levels of absenteeism were also found in these areas. Notably however, if a teacher was from the school district, or if the parents of their students were literate, the teacher came to school more often (Abadzi, 2007).

There were common patterns emerging from these countries studied. It was generally found that the better-educated teachers as well as the older ones were on average the most often absent. In-service training was also a factor in teacher absenteeism in Ecuador, and this accounted for those teachers who did not go to train but yet did not attend school either (Chaudhury et al., 2006). According to Darling-Hammond (2000), evidence from previous research suggests that teacher qualifications were vital to student learning. Further, studies based

on teacher experience and student achievement sometimes found that a significant and linear relationship existed between teacher effectiveness and the amount of years' experience, as the trained teacher was better able to progress students' learning (Darling-Hammond, 2000). This was not always the case in the Secondary School as Spencer (1998) offers a conflicting view which suggests that teachers who were thought to be less effective were the ones most often absent, and as female teachers were in the majority, it can be concluded that being a less effective teacher and being female might be a good indicator of teacher absences.

Burris (2002) asserts that in almost every state, excluding Iowa, if you were eighteen years old and held a high school diploma you could be hired as a substitute teacher. However, Clotfelter et al. (2007) tend to contradict this view as they argue that unlike in the developing countries where substitute teachers are usually unqualified, those in the U.S.A are certified and are easily accessible. Even with such basic requirements, Chicago Public Schools because of their large school districts have claimed that they still have been unable to fill all vacant positions when teachers are absent (Burris, 2002).

In India the problem of absenteeism was very high, and within states, there was a great variation of absences (Rogers & Vegas, 2009). In a study conducted by Rogers and Vegas (2009), they found that many of the teachers in the government secondary schools were not present, and some of the few who were present were just there doing nothing, and as such could only be deemed as there on the job. This was made clear by Kingdon (2007) who advances that "In half of the sample schools, there was no teaching activity at the time of the investigators' visit...inactive teachers were found engaged in a variety of pastimes such as sipping tea, reading comics, or eating peanuts, when they were not just sitting idle" (Kingdon, 2007, p.17). This was similar to the findings of Abadzi (2007) who found teachers engaged in like activities rather than

teaching. Moreover, Chaudhury et al. (2006) and Kingdon (2007) found that the absence rates in non-formal education centres and the rural private schools were high also. However, the private school teachers were absent to a much lesser extent than the public school teachers in the same village, and this contributed to the growth of the private schools due to transfers.

In light of these concerns, Harris- van Keuren (2009) contends that World Bank studies only measure teacher absences but not the length of these absences, and it would be more beneficial if the average duration of these absences was presented, and sees this as a “serious methodological shortcoming” (p.4) of their studies as this has resulted in mixed findings being presented.

Reasons for Teacher Absences

Personal reasons. There are various reasons why teachers use sick leave and these include serious illness (when their health prevents them from being at work), minor illnesses (when they can make the decision themselves on whether to attend work or not) with these illness accounting for 10 percent of teacher absences across countries, and for “paid vacation on days when they have no health problems” (Ehrenberg, Rees, & Ehrenberg, 1989, p.3), since they do not need to produce evidence from a doctor if the absence is for a short period (Ehrenberg et al, 1989). Additional reasons advanced for taking these ‘paid vacation’ days include “overcrowding in the classrooms, poor conditions of the school buildings, lack of respect for the teaching profession, and job stress and burnout” (Whitehead, 2009).

Stress. In 2006, 420 000 employees in Britain believed that they were either stressed; experiencing depression or having anxiety at work, and it was at such high levels that it was making them sick (Cooper & Dewe, 2008). This high level of illness in the workplace accounted

for 13.8 million days of lost labour or a high 46 percent of all the reported absences. It was regarded as the main cause of reported work-related illness (Cooper & Dewe, 2008). Stress has also been advanced as a reason for employee absenteeism. This stress is a direct result of the conditions at work which has contributed to health issues for the employee (De Boer et al., 2002). They further declare that employees either withdraw themselves to avoid “aversive work conditions” (p.181) or because they are “stressed by the work situation” (p.182). In many cases, stress was found to be one of the main reasons for reduced employee morale due to a lack of focus by administrators on teacher support and school goals, which eventually resulted in an increase in teacher absences (Owen, 2010). According to Whitehead (2009), in a classroom in New York, a teacher of two years was absent quite often. It was revealed that stress was a contributing factor for the absence. This stress was brought on by the behaviour of students and the teacher’s inability to manage the class and receiving little help from the principal of the school. Evidence shows that where there is adequate student-teacher ratios in class, this improves the performance of the teacher and promotes job satisfaction (Gillies & Quijada, 2008). Additionally, when the employees believe that they are being treated unfairly at work and they are not being supported by the organization, this can lead to absenteeism, and eventual burnout (De Boer et al, 2002). The demands of the job may then become job stressors and if it requires too much effort on the part of the employee it can cause burnout (Schaufeli & Bakker, 2004).

School size. School size has also been advanced as one of the contributing factors for teacher absences. Where the school is small, teachers would easily know their students and want to see them progress and would therefore come to school. However, where the school is large, the teacher is not as close to the students and would be absent more often (Alcazar et al., 2006).

Some of the adverse effects of teacher absenteeism are highlighted in the following ways as advanced by Scott et al. (2007):-

- a) The continuous absences of teachers tend to encourage misbehaviour in students whereby more resources are deployed by administration in the area of discipline instead of other areas
- b) It damages staff collegiality where critical relationships cannot be made to form a healthy work environment
- c) Direct and indirect costs are incurred for recruiting substitute teachers to replace disillusioned ones who usually ‘fill in’ for absent ones, as well as the pay for the substitute.

These adverse effects can take a tremendous toll on the morale and vigour of the teacher. For that reason, Owen (2010) stresses that “there is often a toll on other teachers to get together lesson plans or fill in for other duties when other teachers are absent which may affect school culture and teacher morale” (p.18). It may therefore be a necessity that disciplinary measures be in place as a measure of dealing with these adverse effects of teacher absenteeism. Jacobs and Kritsonis (2007) go further and add that the practices of the organization, the lack of a school culture, the types of attitudes displayed by employees, along with the goals and values of the organization are also significant contributors of teacher absenteeism (Jacobs & Kritsonis, 2007; Pitts, 2010; Steers & Rhodes, 1978). Additionally, role stress was also confirmed by Whitehead (2009) as being one of the factors which influenced teacher absenteeism. Therefore, where there is a constantly stressful environment which is a direct result of poorly maintained schools, it would encourage absenteeism (Bruno, 2002).

School location and infrastructure. The location of the school also contributed to teacher absences, with rural communities with poor infrastructure recording higher absence rates than in the urban ones (Chaudhury et al., 2006). Similarly, Bruno (2002) notes that in the large rural areas of the U.S.A, the poorly maintained black schools can be found, and with the constant stressful environment, teachers are encouraged to be absent more from these schools. Where the teacher is then absent, the use of substitute teachers is by no means a comparable replacement of the substantive teacher, and this impacts on the delivery of instruction to the students (Bruno, 2002). Additionally, the area in which the student lives impacts on how prepared the student is for class, and if teachers do not like where the school is located, this will contribute to a lack of motivation to teach, whereby absenteeism will set in (Bruno, 2002). Being near to the workplace however, enabled teachers to come to work more often, as it was found that teachers who came from the area in which they worked were often present, as was seen in the six countries of Ecuador, Bangladesh, India, Indonesia, Peru and Uganda (Chaudhury et al., 2006). This was also considered by Bruno (2002) who looked at school locations and the likeliness of teacher absences based on this factor. He was able to conclude that there is a relationship between the geographical location of a school and teacher absenteeism in the U.S.A. It is not restricted to any one school but across all school sites, but at a greater degree across the urban low-income school areas (Bruno, 2002). This also obtained in Peru, but, added to this, those teachers who were parents saw the need for students to be educated and came to school a little more often than those without children (Alcazar et al., 2006).

More widely in the U.S.A however, customary reasons given by teachers for absence included “illness, professional development, personal reasons, family bereavement, etc.” (Bruno, 2002, p. 3) leading Bruno (2002) to suggest that some teachers seem not to see anything wrong

with their being absent believing that they have the right, due to the allotted entitlement to be absent. This resulted in students in poorer communities being constantly deprived of a formal education (Bruno, 2002). Investigating absenteeism in public schools in North Carolina in the U.S.A, Clotfelter et al. (2007) also found that teachers in the poorer regions of the state were also absent more. Pitts (2010) supports this view and adds that in North Carolina it was also found that the grade level being taught was also a determining factor in the amount of absences teachers took. For as the grade level increased, so did the amount of teacher absences.

Additionally, in an urban district in the northern U.S.A, data were collected on the daily report on teacher absences and the reasons given for the absences to enable Miller et al. (2007) to compare the rates of absences between schools and explore the determinants of these absences. It was found from the two emerging patterns that discretionary absences made up a large portion of the total absences for Ormondale's State Department of Education elementary teachers. It was also determined that Friday, was the most common day that teachers were absent, like in Northern Ghana, suggesting that it was being used to extend a weekend. Miller et al. (2007) therefore posit that teachers might be using Fridays and Mondays as absent days because they know that within their contracts they are not obliged to provide any proof of illness for two days. This is supported by Leaf (2011) who claims that teachers are often absent on Mondays and Fridays and the days before and after holidays. Therefore, Leaf (2011) is of the belief that such patterns indicate illness might not be the main reason teachers are absent. Further, Miller et al. (2007) found that as student enrolment increased, so did teacher absences, with new teachers and very experienced ones being absent less often when compared to those who were teaching for a moderate period of time. These arguments are however contrary to previous research findings

by Jacobs and Kritsonis (2007) who advocate that it is a misconception to believe that teachers will be absent on Fridays as they “tend to stay at school in anticipation for the weekend” (p.4).

Situational constraints. Data from the one hundred and four studies reviewed by Steers and Rhodes (1978) revealed that many concluded that the ‘situational constraints’ which made employees absent included “poor health, family responsibilities, and transportation problems” (p.392). With Zambia, having a high rate of HIV, this might also have impacted on the ability of some teachers to get to school (Chaudhury et al., 2006; Das, Dercon, Habyarimana, & Krishnan, 2007). In Peru, authorized sick leave, sickness and official duty accounted for one-third of the recorded absences of teachers, with the remaining two-thirds of absences being for personal reasons (Alcazar et al., 2006). For as Alcazar et al. (2006) put it, in the high poverty districts of Peru it was found that teachers were absent twice as much as other teachers in the other more affluent areas, mainly due to the quality of the infrastructure at the school, and transportation difficulties. If the school was located far away from a paved road it also made access by the teacher difficult at times (Alcazar et al., 2006; Pitts, 2010). Findings by Alcazar and Pollarolo (2000), as cited in Alcazar et al. (2006), also revealed that because teachers were lonely, having been forced to relocate away from their families due to the remote area of the school, they were often absent due to travel over the weekend period. However in some cases, where schools were located in communities, this tended to influence the attendance of teachers who were familiar with the parents of the students, due to the regular contact with them, and this encouraged them to be present for school more often (Harris-Van Keuren et al., 2009).

On the contrary, in Northern Ghana where teachers taught at schools in the areas where they lived this developed a tendency for them to be absent more. This was mainly due to their taking care of their own business, which sometimes included farming so that they could generate

extra revenue. Al-Hassan (2009) discovered that the health of the teacher was the most prevalent reason for absences for both male and female teachers, totalling an amount of 48%. The infrastructure of the school accounted for 26% of the absences while both social and economic conditions accounted for 11% of the absences. Other reasons noted by Al-Hassan (2009) for the absences of teachers included attending funerals which sometimes took the entire day, as some teachers tended to become drunk at these events. Religion in Northern Ghana was recognized as the main reason of high absenteeism on Fridays as teachers were mainly Muslim and attended.

In a four-country study conducted by Abadzi (2007), additional reasons for this “rampant” (Abadzi, 2007, p.1) absence were offered. These included strikes, official leave, leave to perform legal duties, returning home for the holidays, participating in educational workshops, undergoing in-service training, personal problems, going to administration centres, informal leave, and the deplorable physical conditions at the schools. Some teachers, even though at school, were absent from the classrooms where they were found to be “chatting among themselves or allowing the students to go on extremely long breaks during scheduled teaching time” (Abadzi, 2007, p.1). However, some teachers in Pernambuco were absent for a different reason. They had just absconded from their duties with some going as far as to hire others to teach for them with the reason that they needed to supplement their income (Abadzi, 2007).

As no medical certificate is required for absences not exceeding five days, teachers in England were free to take this time off without the fear of sanction. Evidence obtained from research conducted by Bowers and McIver (2000) as cited by Bowers (2001) from a sample of 126 schools, showed that the most common reasons for teachers illness was for “colds, influenza and respiratory conditions” Bowers (2001, p.144), with stomach ailments and having headaches

being the secondary reasons. It should be noted that these reasons given were different from the reasons being advanced in the other countries being studied.

These views on absenteeism are further supported by Ramsey et al. (2007) in an article reported in the Barbados Advocate Newspaper, where Dr. D. Greenidge spoke at a seminar for the Human Resources Management Association of Barbados on ‘Absenteeism in Barbados: Findings from Two Barbadian Studies’. He advances that the findings of these studies showed that one of the main organizational issues which causes Barbadian employees to be absent was the “lack of job satisfaction”. In these two studies which were conducted in 2004 and 2008 respectively, it was determined that reasons for employee absenteeism in Barbados were similar to those found in other studies. The only two reasons which were found to be more prevalent in Barbados was absenteeism due to the weather and for personal errands. There were over 1300 workers who were mainly from twenty-nine private sector organizations that participated in the study, with absenteeism being determined as the total number of certified and uncertified sick days taken within the calendar year (Ramsey et al., 2007). Worker absence rates were not included in this research.

In the Secondary Schools of Indonesia, the subject being taught had a direct influence on teacher absenteeism. This was notably so for English teachers who were the most often absent, as not having the necessary “ lesson notes” (p. 23) to teach with, made the teacher less confident and caused them to stay home (Al-Hassan, 2009). Moreover, if the teacher was teaching more than one subject and they were not competent in both, it proved to be too difficult to cope with and so they frequently absented themselves, and where a substitute was used, only about a third of them were actually teachers of the subject area (McKenzie et al., 2014).

Staff relations. It will therefore be up to the principal to find ways to motivate staff through improved working conditions so that they would become committed to the school and the needs of their students (Harris, 2009; Leithwood, Harris, & Hopkins, 2008; Leithwood, Jantzi, & Steinbach, 1999; Ross & Berger, 2009). Referring to a study conducted by Argyle et al. (1958), Steers and Rhodes (1978) advanced that it was revealed that where the superiors showed a democratic style of leadership and accepted input from staff, they gave readily of their expertise and knowledge in any area necessary and this led to a reduction in absenteeism. This view is also supported by Pitts (2010) who contends that the manner in which people in administrative positions relate to their subordinates can also lead to increased absenteeism. Therefore, if teachers are given the opportunity not only to plan their work, but also to help in the decision-making regarding the school's curriculum and their own welfare, this would contribute to higher levels of morale and a decrease in absenteeism (Dimmock & Walker, 2002). Therefore, it is being advanced that principals must be mindful of these measures so as to create "strong relationships with teachers" (Murphy, 2006, p.182). With this in mind, Keller (2008) adds that the morale of the employee and the leadership and support that they receive are also necessary if absenteeism is to be reduced.

Job satisfaction and motivation. The demands of the job will influence how a person feels about the job and whether it will be stressful to them or not (Bowers, 2001; Schaufeli & Bakker, 2004), and as the teaching profession has now become a highly stressful job this can eventually lead to absenteeism (Haberman, 2004; Whitehead, 2009). The job of the teacher is demanding and stressful as it often includes long additional working hours after school, with little consideration being given to whether the teacher is ill or not (Joseph et al., 2014), especially in some poorly maintained schools (Bruno, 2002). Further, Leithwood (2006) asserts that where

the teacher is unable to cope with stress, they are often absent, and this affects the school, as well as the students they teach. He further posits that when these same teachers are present, their class instruction is inadequate and they have poor relationships with colleagues and their students. Commitment to the job falters and they become more argumentative with those around them (Leithwood, 2006). As such, where an unpleasant and unsociable work environment exists, along with the educational challenges which teachers constantly face can also make their jobs demanding and stressful and lead to absenteeism among teachers (De Boer et al., 2002; Derycke, Vandeven, Rots, & Clays, 2013).

The actions of the teacher, therefore, will be determined by individual or collective teacher effectiveness, job satisfaction, commitment to the organization, stress or burnout, morale, a connection with or disconnection from the school or the teaching profession and knowledge of the subject matter (Leithwood, 2006). Therefore, teachers being present for school are highly influenced by the practices of the organization as well as other reasons which might prevent them from attending (Bowers, 2001; Derycke et al., 2013; Hammond & Onikama, 1997) rather than how the teacher feels about the work place (Bowers, 2001). With that in mind, job resources will be necessary to satisfy job demands so that work can be done (Schaufeli & Bakker, 2004). Hence, if the employee is satisfied with the amount of responsibility assigned at work, he will have positive feelings about his work (Harrison, 1995, cited in Ramsey et al., 2007). In particular, teachers can experience nervous breakdowns due to the constant government initiatives and monitoring by Ofsted (Hill, 2008). Therefore, according to Bowers (2001), trying to enforce full attendance of teachers may not be in their best interest as short leaves of absence may make them more satisfied with the job and less stressed and tired. Bowers (2001) came to this conclusion based on a study on nurses conducted by Hackett and

Bycio (1996) where such results were found, suggesting that short absences may be a necessity to one's well-being. However, Bowers (2001) warns that a teacher who is satisfied with the job might not necessarily be committed to it, as being diligent does not automatically mean that one is satisfied (Bowers, 2001) as the teacher who is physically burned out is no longer alert or committed (Haberman, 2004). Scott et al. (2007) go further and add that if working conditions were improved, teachers would no longer need to take "mental health days" (p.4). This is fully supported by Heckman and Oldhum (1976) as cited in Yanadori and Jaarsveld (2014) who assert that an employee's job experiences will directly impact on the psychological state of the employee. Therefore, schools should create smaller classes; guarantee daily planning for teachers; guarantee duty-free lunch periods for teachers; provide crisis prevention–intervention training; improve administrative support and improve staff collegiality.

Thus, Brown and Arnell (2012) offer suggestions which can be utilized by local education authorities as a measure of curbing teacher absenteeism. They argue that if a district is interested in determining the extent of teacher absenteeism it must consider the job satisfaction level of the teacher, whether the pressures of the job is contributing to teacher burnout and what is causing a decrease in teacher morale (Brown & Arnell, 2012). The following measures should then be implemented in schools by the school districts.

- a) Re-assessing the current review board policy
- b) Appointing an attendance improvement co-ordinator
- c) Constructing attendance guidelines
- d) Buying back of unused sick leave should be considered
- e) Developing an attendance recognition plan
- f) Discussing sick leave use and abuse with employees

- g) Improving work conditions
- h) Providing an incentive for experienced teachers who volunteer for assignments in failing schools.
- i) Hold administrators accountable for administering policies, and site administrators for any abuse of the policies.

(Lewis, 1981; Norton, 1998; Brown & Arnell, 2012).

Further, if teacher burnout is eliminated, teacher absenteeism will decrease (Brown & Arnell, 2012). Therefore, it will be necessary for the school administrator to help teachers to meet their short term goals, as well as those of the school. The classes that teachers teach should be rotated and the financial and material resources which are necessary should be provided. In addition, where teachers are treated with fairness and feel appreciated and valued, this will act as a boost to their morale (Brown & Arnell, 2012). Therefore, where teachers believe that they are being un-faired at work by being given extreme workloads, it can have a negative effect on teacher commitment (Leithwood, 2006). In light of this, when Brazilian teachers were asked by Abadzi (2007) how they felt teacher absenteeism could be reduced, they suggested that if their salaries were increased and the government made use of its given rules on absenteeism, this would decrease the number of absences that teachers took. Moreover, when teachers were late or absent, they felt that they should be punished or sanctioned to help lower teacher absenteeism within the country, and that those teachers who had problems getting to school on time should be reassigned to schools nearer to their homes. Along with this, they believed that new teachers who needed help should be given assistance when needed, and at the same time a message

should be sent out to teachers unions to make them aware of the significance of the time that is lost using public awareness campaigns to put pressure on them (Abadzi, 2007).

Leithwood (2006) cites a study conducted by Ostroff (1992) which supports Steers and Rhodes (1978) views on job satisfaction. This study used a large sample of junior high and secondary school teachers. It was determined that from among the attitudinal variables considered, job satisfaction best predicted student achievement. Moreover, where the climate at the school is satisfactory, and there is good communication, this can augment the job satisfaction of the teacher (Leithwood, 2006). For the teacher who is satisfied with the job will unlikely be absent like those who are dissatisfied (McKenzie et al., 2014).

Class size has been seen as another contributor to job satisfaction of the teacher. In a study of teachers in Prince Edward Island, Leithwood (2006) advances that findings show that there was “significant difference in job satisfaction between teachers with classes ranging from 16 to 30 students, as compared with teachers whose classes exceed 30 students” (Leithwood, 2006, p.27). Additionally, where there are adequate student-teacher ratios in class, this improves the performance of the teacher and promotes job satisfaction (Gillies & Quijada, 2008). Further, where the principal was friendly, listened to suggestions of teachers, was supportive of them and treated them as colleagues this improved teacher commitment (Leithwood, 2006).

Santiago et al. (2010) advance that there are studies using quantitative and qualitative approaches which found a direct relationship between teacher satisfaction and commitment and teacher absenteeism. Where they were satisfied with their salaries, the school climate with a supportive Principal, not having a heavy workload, and the availability for professional development opportunities, it had a positive significant effect on their attendance (Santiago et al., 2010).

Norms and Policies

School and district leave policies. Miller et al. (2007) claim that some of the absences being seen by teachers are “discretionary and can be influenced by school and district policies” (p.4), where there is the availability of generous leave allowances, as well as sick or personal leave stipulated in the contracts (Miller et al., 2007). The type of contract that a teacher receives also encourage absenteeism. With teachers being able to accumulate sick days not used, it is believed that this might unintentionally promote the practice of absenteeism, being “an unintended side effect of these policies” (Ehrenberg et al., 1989, p.1). In addition, when young teachers accumulate their sick leave days they will obviously want to use them when they are about to retire. Thus, Ehrenberg et al. (1991) believe that the ages of the teachers in a school district will have an effect on their absentee rate.

The National Council on Teacher Quality proclaims that normally a student spends at least one year during the K-12 development with a substitute teacher instead of his/her normal teacher, and this happens because of the policies that are in place for teachers (Pitkoff, 2003). Therefore, if school districts want to curb the practice of frequent teacher absences, they should, according to Pitkoff (2003), enforce the following measures.

- a) There should be a new limit on the amount of personal days given to teachers and rename them as ‘emergency leave days’, where they would no longer be seen as entitlement days, but emergency ones. This would then force teachers to give an appropriate reason for being absent.

- b) The number of sick days allowed per year should be reduced to that of the minimum allowed. In addition, the elimination of sick leave banks would reduce the amount of short term absences being seen.
- c) Staff development programmes should be held after school or on weekends so as not to intrude on teacher instructional time with students.
- d) Teachers should be made aware of their constant absences and gain insight as to the reasons in an effort to curb such.
- e) Attendance should become a part of the annual teacher evaluation procedure, and good attendance should be rewarded.
- f) Direct communication with the Principal should become an established norm when teachers are going to be absent.
- g) The practice of absent teachers paying the substitute teacher when their personal days have been expended should be discouraged, as this encourages absenteeism.
- h) Teachers taking vacation during the school session should no longer be allowed whether or not they have made previous plans, as very little teaching can be done during their absence (Pitkoff, 2003).

In order for the preparation and developmental processes to occur at the school, it will be necessary for the teacher to be at school. If teachers continue to miss important committee meetings or conferences which were organized on their behalf, their voices will not be heard and this will make these conferences less productive if they can still be held. Additionally, Spencer (1988) argues that when teacher unions lobby for improved working conditions for teachers, it is then that the School Boards and parents should intervene and be adamant that teachers would

also have to play their part and improve their level of attendance at school (Spencer, 1988).

Added to this, Ehrenberg et al. (1989) advance that those districts which specify the amount of days which can be used yearly for “visitation, conference, and professional days” (p.14) recorded lower rates of teacher leave days. Further, it has been argued that if teachers were treated more as professionals, they would not see the need to take so many off days to relax and recuperate. (Ehrenberg et al., 1989).

Absence norms in the U.S.A. In the U.S.A however, the problem of teacher absences was thought to be not as prevalent, as Clotfelter et al. (2007) found that within the U.S.A, although there was a problem of teacher absenteeism, it was not as visible as that of developing countries. These researchers believed that even though the level of absenteeism was low, there was still the need for a further reduction so as to improve the discipline of students as well as their achievement. As teachers in the U.S.A are offered incentives for being present, unlike in the developing countries where none is offered on an ongoing basis, this has contributed to them being present more. This is currently the case in several districts in the U.S.A where the bonuses offered are substantial (Clotfelter et al., 2007). This is supported by Jacobs and Kritsonis (2007) who contend that school principals must be aware of those factors which contribute to teacher absenteeism and introduce incentive programmes for teachers as a means of encouraging them to be present more often. However, giving teachers these incentives also had its drawbacks as it was found in various countries that where teachers felt that they were not being well rewarded for their effort at school they were absent more.

With the hope of reducing teacher absences in the Merrick, the New York School District implemented a modified district policy where the continuous attendance of the teacher became one of the criteria in teacher evaluation. This was for both the new teacher and the appointed

teacher. Such a change to the previous sick leave policy was also communicated to the Teachers' Association by the School District. It was then left to both the Principal and the Head of Department to implement the new policies under the guidance of the Superintendent of Schools. Not only was the principal to keep a record of the teachers' attendance, but also to talk to teachers who seemed to be absent at will. If the teacher made no effort to improve, the principal would then forward this information to the Superintendent in writing and also place a copy of the correspondence on the personal file of the teacher. At the regular meetings of the central office this information would then be discussed with the school principal and an appropriate action would be decided on (Spencer, 1988). Two years later, a new Superintendent informed teachers of the problem that their absences were causing for the school, and made them aware that as a result they would now be monitored. These new measures saw teachers reducing their number of absent days from 990 days to only 440 days within the calendar year (Spencer, 1988).

More recently, in the Wake County Public School system of North Carolina during 2007 – 2008, teachers were found to have taken between 10.3 days to 14.6 days yearly as was reported by Speas (2010). This was an increase of what had been reported previously by Clotfelter et al. (2007). In addition, monetary incentives were found to only work for short periods as many teachers often reverted to their old ways of being absent (Duflo & Hanna, 2005; Miller et al., 2007). Similarly, where Goodman and Turner (2010) conducted a policy experiment in NYC to ascertain the effectiveness of giving teachers incentive to increase student performance, it was found to have had little effect. They found that monitoring teachers in order to determine the allocation of incentives was not only expensive, but not easy to determine exactly how much each individual teacher who taught the student had contributed to their overall progress (Goodman & Turner, 2010). Teachers in the U.S.A are allowed a specified amount of sick leave

annually with an option to take up to an additional 20 more days sick leave, incurring a cost of fifty dollars for every additional sick day taken over the amount allowed (Clotfelter et al., 2007). Although the personal sick leave taken by teachers was low, administrative leave was found to be high (Speas, 2010). More recently, Miller (2012) stressed that it has become the norm for about 40% of teachers in New Jersey's public schools in Camden City to be absent, and this absence rate way surpasses by far that of the national average of 3%. Banerjee, King, Orazem and Paterno (2013) maintained that the factor which seemed to explain these high levels of absenteeism by teachers is their inadequate supervision which allows them to be absent and missing classes without consequence. McKenzie et al. (2014) maintain that there needs to be an improvement in the way the school Principal, the Education Officer for the district along with the community as a whole, keep track of those frequently absent teachers.

Ineffective and constantly absent teachers who have exceeded their allowed absent days cannot be dismissed in the USA because of the legality of their contracts. As it is a costly process which can take years to accomplish, many head teachers tend not to pursue this measure (Leaf, 2011). The type of contract that a teacher received also encouraged absenteeism, prompting Leaf (2011) to argue for a reform in the contracts given to teachers in the hope that it would assist in curbing these absences. Further, with teachers being able to accumulate sick days not used, it is believed that this might unintentionally promote the practice of absenteeism, being "an unintended side effect of these policies" (Ehrenberg et al., 1989, p.1). In addition, when young teachers accumulate their sick leave days they will obviously want to use them as they are about to retire. Thus, Ehrenberg et al. (1991) suggest that the ages of the teachers in a school district will have an effect on its absentee rate. Additionally, when Ehrenberg et al. (1989) reviewed the first study to investigate 'the effects of sick leave policy on teacher

absenteeism' which used data for the period 1974 – 1975, collected from 57 elementary schools based in California and Wisconsin, it revealed that the existence of “income protection plans (for long-term sick leave)” (Ehrenberg et al., 1991, p.1), was connected to higher rates of absenteeism. Where teachers were asked to present proof of their illness and report these illnesses directly to their school principals, there was a reduction in absence rates. In the second study which was carried out in a New York state school district, it showed that when teacher absences were compared after the instituting of “pay incentives for good attendance in 1986 – 87” (Ehrenberg et al., 1989, p.2), to those before this was done, the average sick days taken in the entire district was considerably lower. Where bonuses were offered, it was done with the hope that those teachers who were not working would be encouraged to do so after seeing those who were performing well were being given these additional sums of money (Harris-Van Keuren et al., 2009).

However Abadzi (2007) asserts that where instructional time is wasted, it should be a matter of great concern to “those who finance education” (p.2) as this finance which has been given, is expected to be used to provide daily opportunities which engage students in learning activities. In addition, Rogers and Vegas (2009) advocate that where it is known by policy makers that a problem of teacher absenteeism exist, they should occasionally undertake independent inspections of these schools to observe the problem directly. This exploration would uncover the reasons for the diverse types of absences being experienced by schools, along with some insight on how to reduce this dilemma facing schools today along with any restrictive measures which could be used (Miller et al., 2007).

Absence norms in India. In a study conducted by an NGO within the Rajasthan Village in India, it was found that where teachers were offered a bonus to be present, their attendance

improved significantly. This was the finding at half of the schools which were selected to be a part of an experiment. The teachers were expected to take pictures of themselves with their students at the beginning and ending of school every day, with a given camera which would record the date and time. As a result of the new availability of teachers for classes, the student scores were increased within a year (Duflo & Hanna, 2005; Kingdon, 2007).

Absence norms in Northern Ghana. Unlike the other countries, education officials in Northern Ghana took a more stringent approach to the disciplining of teachers. Some of the disciplinary measures taken by the school districts against those often absent teachers included giving them advice, direct warnings, stopping their salaries, deferring possible promotion, transferring them or recommending to the Director General that they be dismissed. It was, however, found that most of these measures made no impact, except for the withdrawal of salary which proved to be very successful in these cases (Al-Hassan, 2009). Such was also the case in Mongolia where low levels of teacher absenteeism was seen in schools because being absent without an excuse resulted in a deduction from salary. Tardiness for school also resulted in it being documented by the Deputy Principal who later sanctioned the teacher (Harris-Van Keuren, 2009).

Absence norms in Ecuador and Pernambuco. Conversely, as teachers in the countries of India, Peru, Ecuador, were “unlikely to be fired for absence” (Chaudhury et al., 2006, p.92). This problem of absenteeism existed with the teachers on contracts being absent just as much as the civil service teachers, even though they did not have the protection of being civil servants, and earned a mere fraction of what those teachers earned (Chaudhury et al., 2006; McKenzie et al., 2014). Pernambuco’s teacher absence rates varied according to the week day, with Monday being the most favoured day to be absent (Abadzi, 2007). Chaudhury et al. (2006) suggest that if

teachers were monitored more, this could result in a decrease in absenteeism. This belief is mainly due to the noticeable rise in attendance by teachers during the time they conducted the research at the schools. For as Chaudhury et al. (2006) put it, “In India, having a recent inspection is significantly associated with lower teacher absence” (p.104). They also refer to a study conducted by King and Ozler (2001) which support this call for a greater presence of local education authorities near schools, and suggest that the presence of the local education authority may be associated with better performance by teachers. Further, these efforts can be supported by Parent Teacher Associations (P.T.As) in schools, as teachers are not absent as much where vibrant P.T.As are present with higher parental literacy rates (Chaudhury et al., 2006).

Absence norms in England. In England, teachers are the third largest workforce in the public sector, amounting to 26977 full- time workers (Dafydd, 2012). Bowers (2001) suggests that it is government’s aim to keep teachers working for as long as possible to prevent them from having to retire due to ill-health, as where they are forced to retire early due to ill-health, it was found that they recorded high absence levels before they left, and this brought their absences higher than the national average. Some of these absences might be the direct result of field trips or for professional development, but still impacted on students who remain at school and have to be kept by a temporary substitute (Bowers, 2001). These short and frequent absences has caused major managerial problems for schools than the long term absences did and this was because it was relatively easy to find a substitute teacher for long term periods of absence than for shorter periods. Therefore, schools were forced to take out insurance plans to cover against teacher absences as government played no part in paying for substitute teachers. These plans only compensated the school from the third day or the sixth day of absence; therefore the school could face the challenge of paying a substitute teacher themselves for between one to five days of the

regular teacher's absence, and as each school varied in their record keeping with no set standard being maintained, this compounded the issue (Bowers, 2001). This information collected on teacher absences was then passed on to the Local Authority (LA) by each school. Then as the LA in England employs teachers in some of the schools, due to there being various types of schools, this posed significant problems in compiling teacher absence data to the local authority Bowers (2001). In 2010, a total of sixty-four per cent of teachers in England were absent for at least one day as a result of sickness. However, in the following year that amount was slightly reduced to fifty-nine percent of them taking such absence leave. This amounted to an average of thirteen days per teacher totalling 213 317 days (Dafydd, 2012). Yet with this high rate of absenteeism, teachers are rarely dismissed in England (Allen & Burgess, 2012). In England, the LA makes no direct policies for head teachers or governors to adopt. Instead, they make suggestions and guidelines with the hope that they will be followed, as there are only a few of them remaining as many are now becoming academies or joining with academy trusts. These guidelines mostly follow those recommendations of the 'National Employers' Organisation for School Teachers (NEOST, 1999). This organisation in turn patterns its recommendations from a previous government report of 1998 on public sector absenteeism (Bowers, 2001). Some of these guidelines are seen by Bowers (2001) as inhibiting which may not achieve the intended aims. He makes this claim as he believes that when teachers know that their workloads will be covered by other teachers from the department this may encourage them to be absent more and at the same time may not increase work commitment of the other teachers who are forced to 'fill in' for them. Further, to encourage the older teachers to remain in the system it will be necessary for those in authority to motivate them so that they will want to come to school. Bowers (2001) further believes that not only should teacher accountability be seen as important, but also the

appreciation of teachers, where they feel supported and acknowledged for their years of experience and knowledge.

Absence norms in Pakistan. In Pakistan during the 1990's, teacher absenteeism was at a very high level. This was revealed from a study conducted on motivation and incentives for teachers of public, private and community schools in Pakistan which formed part of a larger twelve country case study. It was revealed by Khan (2006) that in Pakistan it was the norm for the female teachers to arrive after the start of school and leave for home before the closure of school, as they experienced difficulty with obtaining transportation. These transportation difficulties also posed a threat to females in terms of security who saw the need to be at home before it became dark (Khan, 2006). As there is very little accountability on the part of teachers in the public sector in Pakistan, they are often absent (Khan, 2006). This lack of accountability has led to many occurrences of "ghost schools, and ghost teachers" in the teaching system (Khan, 2006, p.1), where teachers were on the payroll but did not show up for school and so the schools had to be closed and students returned home. This was revealed in the findings of a survey which was carried out in the Sindh and Punjab provinces by their Education Departments in the late 1990s. The Education Departments discovered that in the province of Punjab, there were seven hundred 'ghost schools' at both the primary and secondary levels, along with an enormous amount of 'ghost teachers' totalling 18000. In Sindh province, however, they found 340 'ghost schools' along with 7000 'ghost teachers' (Khan, 2006). However, Banerjee et al. (2012) further revealed that teacher attendance in private schools was much higher than that of government Mosque schools combined, with very low rates of teacher absences due to a large extent to the availability of required resources at these schools. In many cases, there was only one teacher on staff in a school and they were forced to teach all five grades in the school (Khan,

2006) and this heavy workload therefore may have contributed to them being frequently absent. This occurred even though government teachers knew that they would face sanctions such as reductions in salary or be disciplined if found to be absent 16% or more of the scheduled school days per year. These same teachers were allowed up to twenty-five absent days per year without losing pay, with sanctions rarely occurring because schools did not report the true absences of teachers. For as Banerjee et al. (2012) put it, “When spot checks were made at the schools...the official rate is lower than the spot-check absenteeism rate in both public and private schools, but the gap is larger in government schools” (p.565). Also in Tunisia, the principals contributed to teacher absenteeism by covering for those teachers missing from school. These principals indicated that where teachers were absent substitutes were assigned, however, teachers contradicted this statement and indicated that when they were absent the students were allowed to return home (Abadzi, 2007). Where head teachers covered for absent teachers this also contributed to teacher absenteeism at the schools. Such instances were reported by Kremer, Chaudhury, Rogers, Muralidharan and Hammer (2004), as cited in Chaudhury et al. (2006), where it was indicated that in some instances the head teacher appeared to be ‘covering’ for teachers stating that they were on official leave when they were not, as was later found out by the researchers who visited these schools. Similar instances are highlighted by Harris-Van Keuren, et al. (2009), who argue that in some countries the local administration usually manipulate the attendance rates so as to pay bonuses to teachers. This occurred in schools in some developing countries where exceptional pension plans are offered, whereby the absent teacher will not be seen as having broken service and will therefore still be entitled to his/her pension plan. In these schools it would not be seen as a burden to teachers to fill in for the absent ones as they know

that they will be compensated from the salary of the “ghost teacher” (p.3) which is divided up amongst them (Harris-Van Keuren, 2009).

It was found generally, that despite the rules governing teachers which stipulate that they can be subject to disciplinary action if often absent, this rarely happened in developing countries as head teachers seemed to have little interest in implementing them (Abadzi, 2007). In only one government school in India was a teacher dismissed, and this was out of almost three thousand schools where this problem existed. On rare occasions, the only disciplinary measure which might occur was the transferring of a teacher to an undesirable location. In the private school system however, they took matters a little more seriously and 35 teachers were dismissed for committing similar offences (Chaudhury et al., 2006).

Absence norms in Peru. In Peru, decentralized implementing units were set up to handle disciplinary sanctions relating to teachers but this was only in the forms of verbal or written warnings, so as to remove this responsibility from the principals of the schools. This too proved to be quite ineffective as even then it was difficult to dismiss a teacher for absenteeism, only for major misconduct (Alcazar et al., 2006). From the hundred school samples in Peru, only four head teachers indicated that they had dismissed a teacher because of extreme absences, leaving Alcazar et al. (2006) to conclude that “attendance may depend on the management style of the school director, including his or her willingness to use disciplinary measures when necessary” (p.15). They further suggest that as an added measure, there should be regular unannounced visits by the Ministry of Education officials to carry out inspections at the schools. However, the lawful benefits given to teachers in substantive posts in Peru indirectly encouraged the practice of absenteeism. It could take months, if it was at all possible, to dismiss a repeatedly absent teacher. The job security these teachers enjoyed, along with the fact that there was

almost no danger of being dismissed for extreme absenteeism, directly contributed to the lack of commitment to the job, with some suggesting that “in practice, there is very little incentive to perform well and few penalties for performing badly” (Alcazar et al., 2006, p.5). This existed even though these same teachers were hired because of their academic capabilities over others who were vying for the same positions. Following their example, those teachers who did not hold degrees or the post of civil servant, and with no real attachment to the community in which the school was located, were often absent (Alcazar et al., 2006). Other important contributing features were the level of seniority of the teacher at the school in terms of years of experience or position held; having to teach across various age groups; how often the school was inspected by the local authorities; and the absence of parental association with the school (Abadzi, 2007).

Principal leadership. Most studies suggest that where the principal has a direct connection with school district authorities, and provides the necessary teaching resources, deals with student discipline and allows the teachers autonomy in the classrooms, this has a strong influence on how effective the teacher perceives themselves to be. This will in turn help teachers to share in the vision for the school (Leithwood, 2006). However, Harris-Van, Keuren et al. (2009) tend to disagree and argue that the policies and practices which exist do not allow the Principals of schools to fully deal with absent teachers, as absenteeism has to be reported directly to school districts or Education Ministries. They advocate giving more authority to these Principals so that they would be encouraged to monitor more and discipline teachers themselves.

Spencer (1988) advances that in 1981 when the Ohio School Board realised that in the preliminary budget they were apportioning an exorbitant amount of money to substitute teachers, they saw the need to ascertain whether teachers were really sick when they took sick leave. To do this, a detective agency was hired by the board to follow these teachers during their time of

sick leave, where it was discovered by the detectives that a teacher was exploiting the sick leave system. As a result, the teacher was placed on a five-day suspension from work by the School Board. Although it was only one teacher guilty of sick leave exploitation, this finding has led Spencer (1988) to advocate this as being a necessary measure to implement into the school system if teaching is to be cost effective and if teacher absence continues to be problematic.

In addition, Leaf (2011) advocates

- a) using attendance records to determine the pay of teachers
- b) making the process for the dismissal of teachers easier
- c) posting a list of teachers' names in ranking order in accordance to absences taken in staff faculty lounges
- d) Before a substitute is allowed to teach it should be mandatory that they pass a competency test in the subject they are being asked to teach (Leaf, 2011).

Where Brazilian Principals felt that teachers were refusing to comply, they suggested that government should ensure that the districts as well as the schools did the inspections and supervision that is required of them so as to punish the delinquent teachers. In addition, Principals felt that teachers who were seldom absent should be specially rewarded for their efforts. They further felt that with better communication between themselves and the district offices, this would help the situation (Abadzi, 2007). As such, Joseph et al. (2014) also stress that it should become a priority for those in authority in schools to endeavour to establish a culture in schools which promotes constant teacher attendance.

These high rates of absenteeism within Ghana, and in some schools in Morocco, Tunisia and Pernambuco have led to calls being made to make teachers more accountable and to provide incentives to improve their attendance (Abadzi, 2007). A suggestion has even been offered by Brazilian Principals and teachers to punish late or absent teachers to help lower teacher absenteeism within the country (Abadzi, 2007). Further, Alcazar et al. (2006) also suggest that if Parent Teacher Associations (P.T.As) and the community are given a greater role to play in the life of the school, it will have a greater impact on teachers where they can voice their concerns about these absences. They found this to be very significant in the absence rates for teachers who taught in the communities from which they were from. In addition, Rogers and Vegas (2009) assert that these teachers who are continuously absent should be removed from the system and new teachers assigned to fill their places. They do, however, acknowledge that the resolution to these problems might be different in each country.

Student Achievement

The performance of students on standardized attainment tests is normally used to determine the quality of tuition they receive from their teachers (Ballard & Bates, 2008). This is done to hold teachers accountable, if student learning is to take place (Ballard & Bates, 2008). It has been suggested by Chaudhury et al. (2006) that in low-income countries there is little teacher substitution, leaving students with the option of walking around lawlessly, going home or joining any other class which might be able to accommodate them. Also, where schools are very small and there are no teachers present on a given day, they are forced to close on these occasions (Chaudhury et al., 2006). More importantly is that when teachers are absent and no substitute is

sent to replace them, students lose interest and their level of achievement drops (Jacobs & Kritsonis, 2007), resulting in the inability of school districts to expand on quality programmes for schools because of these low levels of student achievement (Carter, 2010). According to Bruno (2002), where excellence is to be seen in urban schools, it will depend on the quality of teachers at the school. Ballard and Bates (2008) share similar sentiments and advance that the performance of students on standardized attainment tests is normally used to determine the quality of tuition they receive from their teachers (Ballard & Bates, 2008), Teachers must therefore be held accountable for the education of the student to take place (Ballard & Bates, 2008).

Further, teacher absenteeism can be costly to the underprivileged as they are unable to pay private tutors for their children to cover what was not taught to pass important examinations. As a consequence, this has resulted in lower test scores in primary schools, where it was found that when there was a 5% increase in the absence of a class teacher who continued with a class for two years, there was a reduction in student gains by as much as 4 – 8% (Bruno, 2002). This has led Miller et al. (2007) to advance that these discretionary absences led to lower levels of achievement by pupils, and Harris-Van Keuren, et al. (2009) to argue that teacher absences impacts negatively on student achievement as there is no way to determine how many days a teacher can miss before it gravely affects student achievement.

Teacher absence and student achievement. The relationship between teacher absence and student achievement is not always apparent, with several studies finding either a ‘weak effect’ or ‘no effect’ at all between teacher absenteeism and student achievement (Abadzi, 2007; Tingle, Schoeneberger, Wang, Algozzine, & Kerr, 2012). This is supported by Rogers and Vegas (2009) who tend to agree with this view and refer to a study of teacher absenteeism

conducted by Ehrenberg et al. (1991) in a New York school district where no significant effects were found on students' academic achievement and teacher absence. They further argue that if teacher absence was to facilitate teacher training or leave, that would make them more productive in their duties at work, and this would in no way hamper student achievement (Rogers & Vegas, 2009). This is supported by Ballard and Bates (2008) who argue that in the U.S, students performed better in schools where their teachers held the National Board Certification. Teachers should understand that they are accountable for finding ways to educate children and should therefore see it as their obligation to take part in activities for their professional development (Ballard & Bates, 2008).

Although the teacher being trained is important, Brophy (1988) asserts that findings consistently report that any gains in student achievement comes through their being given the chance to study the material, with particular emphasis being placed on the amount of time they spend interacting with their teachers through vigorous instruction and supervision. Further, he sees the "amount learned ... related to opportunity to learn, whether measured in terms of curriculum pages covered or percentage of test items that were taught through lecture or recitation activities in class" (p. 240). Consequently, the more subject matter that is covered in class means that students will have a better opportunity to gain knowledge. He further stresses that:

"This active instruction and supervision by teachers is important not merely because it tends to maximize student engagement (time on task), but also because it stimulates and regulates students' learning in ways that enable the students to make much more rapid and systematic progress than they would be able (let alone willing) to make on their own (Brophy, 1988, p. 276)."

In a study conducted by Betts, Zau and Rice (2003) as cited in De Luca, Ziswiter, & Hinshaw (2012), a weak relationship was found between teacher experience and student achievement. Another study carried out by Brown and Arnell (2012) within a two-year period to determine the effect that teacher absenteeism has on student achievement grades 3 – 6 in an Urban Title 1 Elementary School, evidence showed that within the first year (2006 – 2007) 15.3% of the teachers were absent. Yet 75.8% of the third grade students were proficient in Reading and 77.8% in Maths. However, in the following year when there was an increase in teacher absences from 15.3% to 19.5%, student proficiency in Reading was reduced to 39.4% from 75.8% and to 42.76% in Maths from a previous 77.8%. A similar pattern was seen for a similar period in comparisons made within the fourth grade. Where 10.34% of the fourth grade teachers were absent, students recorded 60.14 % proficiency in Reading and 61.74% in Maths. In the following year, where the collective teacher absences increased to 15.5%, student proficiency dropped in Reading to 56.17% and 53.74% in Maths. This, they suggested, was a drastic difference in the level of student proficiency where there was an increase in teacher absenteeism, and contend that “the higher the teacher absence, the lower the proficiency percent becomes” (Brown & Arnell, 2012, p. 180). They have however, failed to consider that there may have been other variables present which might have also contributed to these lower grades including the increased level of complexity of the subject content.

In grade five, the effects of an increase in teacher absenteeism in Reading did not lower student proficiency but increased it, but in Maths there was a reduction in student proficiency. An 18.34% of absences of fifth grade teachers saw a student Reading proficiency of 49.27%, and 69.47% for Maths for the first year. An increase in teacher absences from 18.34% to 19.34% saw an increase in Reading from 49.27% to 57.47%, but a decrease from 69.47% to that of

57.50% in Maths. The same pattern from grade five was seen in grade six, where an increase in teacher absences within a two-year period affected the performance level of students by increasing their proficiency in Reading, but lowering their proficiency in Maths. Brown and Arnell (2012) concluded that if teachers were to limit their absences to ten days maximum within a school year, it would contribute to students' ability to attain proficiency levels of above 70% in Reading and Maths.

Similarly, Wiley and Harnischfeger (1975) as cited in Spencer (1988), studied gains in student achievement for a year. Their findings suggest that in schools where students were given an additional 24 percent of instruction, their reading comprehension averages would increase by two-thirds and in Math and Verbal Skills by more than one-third percent. This finding led Spencer (1988) to conclude that these strong effects highlights that the quantity of education a child receives is a very pertinent factor in their achievement. This would suggest that the amount of time children are taught by their teacher would solely impact on their achievement in class; however the quality of instruction is also significant.

Most importantly, when trying to determine whether teacher absenteeism influences student outcomes, it will all depend on which teacher is absent, the satisfactory one or the unsatisfactory one (Bowers, 2001). This comment suggests that within schools there are two types of teachers, those that are satisfactory and those who are not. It is expected that as the unsatisfactory teacher does little to advance the achievement of students when they are at school, therefore if they are absent it will in no way impact on the achievement of students. However, if the satisfactory teacher is absent, it could impact negatively on student achievement as effective teaching time will be lost to students (Bowers, 2001). From a systematic review of research on the effectiveness of interventions to increase teacher attendance in developing countries by

Guerrero, Leon, Zapata, Sugimaru and Cueto (2012), it was highlighted that when direct interventions were administered along with a system of monitoring for the distribution of rewards, it resulted in a “positive and statistically significant effect” (p.4) on the attendance of teachers but had no effect on the achievement of the students. Therefore Guerrero et al. (2012) agree with Bowers (2001) and have made it clear that although the teacher being present for class is important, it must not stop there as it is now also the quality of the teaching that the students receive in class that will be crucial to their achievement. In addition, having programmes which simply reward teachers for being there may in no way improve the performance of students. In a study which linked 7305 students exam marks across 33 schools in England to the 740 teachers who taught them in their compulsory exam at age sixteen, researchers Slater, Davies and Burgess (2012) found that if the student was taught for two years by a good teacher this added “0.565 of a General Certificate of Secondary Education (GCSE) point per subject to a given student or 33% of the standard deviation of GCSE points” (p.630).

Substitute teacher instruction. Where teachers are often absent, the strength of the instruction given by substitutes may be significantly reduced. This was the finding of Miller et al. (2007) who saw substitute teachers as using the time to show movies as they might not have the necessary skills to teach the subject. There is also the problem of “discontinuities of instruction” (Miller et al., 2007, p.6), where students’ studies are now being interrupted (Miller et al., 2007). It is further purported by Spencer (1988) that these substitutes add “little to the learning process and in some cases detract from it” (p.24) and are not as effective as the regular teacher at keeping the students at work. As substitution becomes the norm to a class, students will not feel committed to forming any close relationship with these individuals as they might never see them again. Most importantly, as substitutes would not be familiar with the level of

achievement of each individual child, they would not be able to plan lessons accordingly to cater to the needs of the various levels in the class (Miller et al., 2007).

Ultimately, when teachers are absent and planning sessions are missed, this may inhibit teachers from partaking in collaborative school instructional programmes that might be in place at that time. This could also impact on the other teachers if the session has to be called off due to poor attendance (Miller et al., 2007). Also, even though some studies have found no relationship between teacher absences and student achievement, strong evidence of this is provided in an experimental study in rural India where bonuses were used to encourage teachers to be present more often; the findings indicate that it resulted in higher student achievement (Duflo & Hanna, 2007). More recently, Duflo, Hanna and Ryan (2012) again conducted a similar study in India to ascertain whether teacher attendance would still improve with financial rewards or by monitoring with cameras. Teacher absences was reduced by 21%, and student scores improved by “0.17 standard deviations over a thirty month period” (p.1241) in the treatment schools. There was however, a 44% rate of absences in the control schools. To determine whether this procedure had increased student achievement, the researchers Duflo et al. (2012) gave the students in the schools three simple exams which included a pre-test, a mid-term test eight months after and a final post-test five months later. These tests were done as both oral and written examinations in Mathematics. Although there was an increase in teacher attendance in the treatment schools, this procedure seemed to have had little effect on student achievement as it was revealed that students obtained similar scores within both the treatment and control schools.

Student achievement in the U.S.A. In the U.S.A it was found that where teachers were often absent, their assigned elementary students performed poorly on given standardized tests (Clotfelter et al., 2007; Das et al., 2007; Finlayson, 2009; Jacobs & Kritsonis, 2007; Rogers &

Vegas, 2009), suggesting that teacher absences will hinder student achievement (Clotfelter et al., 2007) in terms of lower test scores and the lowering of the rank of students in class (Jacobs & Kritsonis, 2007). Clotfelter et al. (2007) came to this conclusion after estimating variations of a standard value-added mode of an applied form to test if the data are consistent with this line of analysis. By matching students in grades four and five to their North Carolina classroom teachers, they were able to compare their academic achievement against the number of sick days taken by the teacher. A comparison was also made of their previous achievement test scores. The findings imply that “having a teacher with ten additional sick days in a year would be associated with a reduced Math test score of about 2.3% of a standard deviation” (Clotfelter et al., 2007, p.17). Also “for reading, the coefficient is less than half as large, implying that the same ten-day increase in sick days would be associated with a lower test score of about 1% of a standard deviation” (p.18). They go further and suggest that the emerging coefficients might be biased due to a correlation of unmeasured features of the teacher’s capability or effort, whereby these omitted variables would make it biased “in the coefficient of absences” (p.18). In addition, if the teacher has been absent due to the performance of the students, ‘simultaneity biases would come into effect’. There was a difference in estimated coefficients of the absence of teachers in the first and second semesters. The second semester showed effects three times larger than that of the first semester in Maths. These results suggest that there is a contributory connection between the absences of teachers and the achievement of students at the elementary grade level in the U.S.A (Clotfelter et al., 2007). Similarly, on the State-wide National Assessment of Educational Progress in 2005, North Carolina was again seen to be below the required standard in both Mathematics and Reading in the fourth and eighth grade classes (Scott et al., 2007). A regression analysis of school level data on these schools saw a small, but yet a “statistically

significant relationship between teacher absenteeism and student achievement” (Scott et al., 2007, p.3). In the Wake County Public School system in North Carolina, Speas (2010) found that teacher absenteeism led to a negative association between achievement in Mathematics and teacher absences in two out of six grades. However, the same was not found in Reading or in six of the other courses taken (Speas, 2010).

Student achievement in Nigeria. In Nigeria in the Kumasi Sub Metro District, a regression analysis was conducted on teacher and student absenteeism rates along with student performance in the Basic Education Certificate Examinations for 2008 – 2009. It was determined that where student absenteeism played no significant role in their performance, teacher absenteeism did, impacting negatively on their performance (Obeng-Denteh et al., 2011). This was contrary to findings from a study conducted by Ehrenberg et al. (1991) which found that where the student was absent because of illness or truancy, it played a greater role in their achievement rather than teacher absences.

Student Absenteeism

Research findings have shown that the behaviour of students, their commitment to school, the climate existing at the school and the school’s commitment to their welfare are some of the contributing factors to student achievement and student drop out (Garcia & Weiss, 2018). It is further argued that although it is known by all concerned that student absenteeism is presenting a problem, the Every Student Succeeds Act (ESSA) has not put forward clear guidelines as to how schools, the school districts and even individual states should utilize any information known concerning absenteeism (Garcia & Weiss, 2018). This might be due in part

to there not being enough empirical evidence at a national level or state level from which to base adequate claims to inform policy on student absenteeism (Garcia & Weiss, 2018). To counter this, Education Week (2017) sees it as imperative to find out what is considered absenteeism, what causes it as well as any suggestions that can be made to counter it (Garcia & Weiss, 2018). Student absenteeism is purported as being a major problem at crisis level across the U.S (Kearney, 2003 as cited in Goldstein et al., 2003), with truancy being highlighted as one the ten main challenges in American schools, with an estimated number of 150000 students being absent on a daily basis in New York City (Dekalb, 1999, cited in Goldstein et al., 2003). The U.S. Department of Education (USED) reports that nationally, around 14 percent of students show signs of chronic absenteeism, missing as much as 10 percent or more school days, which in many states amounted to 18 days of absence each year. These absences were with or without excuses (Jacob & Lovett, 2017). However, studies are not clear as to how many of the student absences were legitimate as opposed to illegitimate (Goldstein et al., 2003). Where the academic benchmark of a school was lowered, student absences were seen as a contributing factor, and this worried administrators as it meant more paperwork had to be done, and teachers' workloads increased with the additional time they had to put in when absent students returned to school. Further, having to go over material already taught was seen as depriving the students who were present of learning opportunities, whilst frustrating and lowering the morale of teachers (Goldstein et al., 2003). This problem currently exists in Newfoundland and Labrador where some children are habitually absent from school without a valid excuse. They fall behind in their school work and are not involved in school activities which eventually cause many of them to drop out of school (Kavanagh, 2019). Data from the Newfoundland and Labrador English School District (NLESD) showed that within the academic year 2016-2017, there was a total of

10% of the students who absented themselves from school for no less than 18 days. This was for excused as well as unexcused absence (Kavanagh, 2019).

As a result of the Every Student Succeeds Act (ESSA) which was passed in 2015, every state was now required to report on the progress of students in the United States. Most states have used this as a means of reporting on the level of absenteeism among students and how chronic it is (Garcia & Weiss, 2018). A student absenteeism report compiled by Garcia and Weiss (2018) sought to answer pertinent questions pertaining to the amount of school being missed by students, which students would probably be absent, if the pattern of absence was consistent over time and how these absences affect achievement. In the report, The National Assessment of Educational Progress (NAEP) found that one in every five students were absent for three or more days during the month preceding the NAEP assessment for Mathematics. This included students with disabilities, those entitled to free lunches, Hispanic children learning English, along with the Native American children. Noticeably, the Asian students were the ones who were usually present (Garcia & Weiss, 2018). However, collected data in the U.S indicated that in 2015, children were absent for fewer days less than in 2003. Findings also indicated that student absences also negatively impacted on student achievement where students in eighth grade who missed more than three days during the month prior to being tested on the 2015 NAEP Mathematics test, scored lower by 0.3 to 0.6 standard deviations than those students who did not miss school.

Reasons for Student Absenteeism

Education Week (2017) had previously seen it as imperative to find out what is considered

absenteeism, what causes it as well as any suggestions that can be made to counter it. Goldstein et al. (2003) posit that student absenteeism is associated with a number of underlying issues which include variables linked to the school, family unit, and the personal qualities of the student, with the relationships between the teacher and the student in the classroom being seen as the most important reason for student absenteeism. Additionally, highly competitive classrooms where the teacher did not support the needs of students also encouraged student absenteeism. The home environment has also been found to play a great part in student absenteeism. Family related issues such as the divorce or separation of parents, unemployed parents, illness, substance abuse by parents or self, conflict between family members in the home, low levels of discipline in the home and low education levels of parents also contributed to student absenteeism (Goldstein et al., 2003; Jacob & Lovett, 2017; Kavanagh, 2019) along with child neglect, “mental health issues, neglect, family or school violence, learning disabilities, or boredom with curriculum” (Kavanagh, 2019, p.1). The IQ level of the student also determined whether they would be present for school. The lower the IQ, the more often they were absent, and if their academic achievement was low, they were more likely to stay at home (Goldstein et al., 2003). Additionally, if the student had very few friends and low self-esteem, this also influenced absenteeism (Goldstein et al., 2003).

The Effects of Chronic Student Absenteeism

The strongest predictor of sixth graders not graduating high school in Baltimore City Public Schools was found to be student absenteeism (Jacob & Lovett, 2017). However, the

evidence linking student absenteeism to student achievement is not conclusive as there may be confounding variables present which might not have been accounted for. However, what is clear is that the problem of student absenteeism needs to be addressed (Jacob & Lovett, 2017).

Moreover, in Kindergarten, chronic absenteeism resulted in lower academic achievement in later grades in Reading and Math even when factors such as family income, student race, the disability status of the student, how the student feels about school, his socio-emotional development, the age on entering kindergarten, the type of programme pursued there, and any pre-school experience were considered (Jacob & Lovett, 2017).

Conclusion

The problem of teacher absenteeism continues to exist in schools because the local Ministry of Education officials in some countries seem unable or ill-equipped or refuse to do anything about it, and there is a lack of accountability of teachers. This apparent lack of accountability on the part of teachers has contributed to the large number of teacher absences being taken yearly in schools. As seen in the literature, some head teachers know that some of the teachers are absent but report them as being present, seeing their duty as merely to record teacher absences, and not to intervene (Abadzi, 2007).

Throughout the countries surveyed by researchers (Abadzi, 2007; Al-Hassan, 2009; Banerjee et al., 2012; Duflo and Hanna 2005, 2012; Ehrenberg et al., 1991; Khan, 2006; Kingdon, 2007; Miller et al., 2007 ; & Obeng- Denteh et al., 2011), it was found that the poorer the location, and the more remote that it is, the higher the absence rates as teachers seem reluctant to work in conditions which are below certain standards and are difficult to get to.

These poor working conditions, stress, transportation problems and salary are some of the challenges facing teachers which cause them to be often absent. Bruno (2002) argues that educational authorities should not be surprised when teachers in these undesirable areas are absent as the conditions lend themselves to teachers doing so. These factors contribute to low attendance motivation and low job satisfaction (Scott et al., 1991).

Where bonuses are offered to teachers for regular attendance, this seems to impact positively on their attendance. Therefore Abadzi (2007) argues that school systems should look to offer rewards to those teachers who are seldom absent as this may be the one thing that will improve teacher attendance. Moreover, where schools are located in the rural areas of the country, this proves to be another hindrance to teacher presence in schools, as in some cases, only one or two teachers staff these institutions. This means that teachers would prefer to be absent than be forced to teach these large number of students in one class on a daily basis. Most importantly, due to their location they are rarely checked by the local education authorities and this compounds the problem. Therefore, is it not the responsibility of those in education authorities to check and ensure that teachers attend school? Also, what are they reporting on these schools? These are questions which need to be answered.

Where substitutes are the norm in developed countries, many developing ones do not have such a system (Rogers & Vegas, 2009). Instead, where teachers are absent on a given day, another teacher is asked to 'give up' a non-teaching period to cover the class even though they might not be knowledgeable in the subject area, such is the case in Barbados. This can lead to frustration on the part of the teacher if he or she is constantly being asked to do so, and they in turn might seek to use absenteeism as a means of escape.

The literature shows that the challenges of teacher absenteeism are highly linked to the types of leave policies which continue to exist within many countries and give teachers the scope to abuse them. Therefore, Education Ministries must endeavour to make adjustments to these policies to discourage absenteeism and insist that teachers come to school more often or be sanctioned for their frequent absences. Other reasons have been advanced which also contribute to teacher absenteeism which includes the personal reasons which might be preventing the teacher from attending, the relationships between teachers at the school, and the level of satisfaction and motivation that the teacher has for the job (Steers & Rhodes, 1978).

The discussion on teacher absenteeism has ranged from empirically based research to descriptive research. It is agreed by many researchers that teacher absenteeism is a growing problem in many schools world-wide, with frequent absences being reported in numerous schools (Alcazar et al., 2006; Chaudhury et al., 2006; Clotfelter et al., 2007; Ivatts, 2010; Jacobs & Kritsonis, 2007; Miller et al., 2007; Sanders, 1999; Whitehead, 2009; Zuckerbrod, 2008). This has resulted in the loss of instructional time to students (Carter, 2010; Duflo & Hanna, 2005; Pitkoff, 2003; Pitts, 2010), and places a great stress on other teachers who are asked to substitute for the absent ones (Owen, 2010). Even though there is this loss of instructional time, there is still no consensus on the magnitude of effect that these absences have on student achievement, as a study conducted by Robinson (2008) showed that teacher absences did not negatively impact student achievement, and where it did, only in some areas. This has led Finlayson (2009) to advocate that it cannot be said for certain that teacher absences are fully responsible for poor student performance as there are other variables which need to be taken into account which also impact student achievement. She found this evidence when she conducted her research in the Cobb school district and suggests that these variables might be overlooked

due to a lack of consistency of what is being investigated in absenteeism research. Additionally, some researchers focus on the short term absences of teachers, while others centre attention on both short and long term absences and this deficit in consistency makes the area of teacher absenteeism uncertain (Porres, 2016). Most importantly, Porres (2016) posits that the main concern of teacher absenteeism is that every student might not be obtaining the same standard of education in schools. Therefore, if there are other variables which might also be impacting on student achievement, further research is needed to bring this to the fore to determine the extent of the effect, and what measures can be put in place to curb it. The review of research conducted has subsequently identified the following research questions which will guide the study.

Research Question 1a: Which reasons do teachers give that contribute most to their being absent from work at three Barbadian Secondary Schools?

1b: Are there significant differences in the reasons for absenteeism based on specific teacher characteristics?

Research Question 2: What are students' perceptions of teachers' absenteeism at three Barbadian Secondary Schools?

Research Question 3: Do teacher absences impact upon student achievement in the Core subjects at three Barbadian Secondary Schools?

Research Question 4: Does the relationship between teacher absenteeism and student achievement differ between teachers with diverse characteristics at three Barbadian Secondary Schools?

Using various teacher characteristics which have been associated with teacher absenteeism and student achievement in other studies, this study will seek to determine the

extent to which these variables impact on student achievement in the three Barbadian Secondary schools to answer the research questions.

Chapter 3

Method

This Chapter begins with the chosen research approach to the study. A description of the research design is then presented as well as the type of sample used and how it was selected. The choice of instruments used to collect the data are identified and described preceding the procedure for conducting the research. Finally, the statistical procedures used to analyze the data are identified and explained.

The purpose of the research is to investigate the reasons for teacher absences, students' perceptions of teacher absences, and the relationship between teacher absences and student achievement at three Barbadian Secondary schools. There are three approaches which can be used to carry out research, and these are the quantitative, the qualitative, or the mixed methods approach (Cohen, Manion, & Morrison, 2007; Creswell, 2012; Creswell & Creswell, 2018; Muijs, 2004). In quantitative research, phenomena are investigated by the collection of numerical data which is then analyzed using statistical techniques (Muijs, 2004). As this research needed to make use of measurement and statistical analysis to answer the research questions and explain and predict relationships between variables, which is a fundamental trait of quantitative research (Creswell, 2012), the quantitative approach was chosen as the most suitable to conduct the study. This was opposed to the qualitative alternative where without using

statistics, the researcher uses interviews and personal insight to make sense of the data collected by analyzing words and grouping them into categories, codes or themes (Cohen et al., 2007; Creswell & Creswell, 2018; Creswell, 2012)

A cross-sectional, non-experimental, descriptive research design (Cohen et al., 2007; Creswell, 2012; Muijs, 2004) was used as it was the best method to explore the stated research questions with the aim of discovering relationships between variables at a particular time, and those selected for the sample are purposely selected rather than randomly selected (Creswell & Creswell, 2018). Cross-sectional studies also allow the researcher to determine correlations between two variables (Cohen et al., 2007; Creswell, 2012) and this would allow for an analysis of Research question 3, which seeks to find out the relationship between teacher absence and student achievement at the three Barbadian Schools.

Participants

At the beginning of the research, three schools were included in the study to find out whether teacher absences impacted student achievement similarly at the three schools. School B is seen as the top school in the zone, while School A is the middle school and School C the lowest ranking school in the zone. The three Secondary schools are all located in the South of the country of Barbados. The first Secondary school, School A, is a co-educational school and has a population of 840 students and 56 teachers. The second Secondary school, School B, is also a co-educational school with a population of 1000 students and 60 teachers. The third Secondary school, School C, again is co-educational with a roll of 1023 students and 59 teachers. The three schools are located in the same zone for students opting for placement in the country's annual students' Common Entrance Examination, which transitions Primary school students to

Secondary school. They cater to students between the ages of 11 – 17 years of age, and are three out of the eight secondary schools in this zone.

A non-probability purposive sample was used to select the participants for the research as “some members of the wider population definitely will be excluded and others definitely included” (Cohen et al., 2007, p.110). This sampling strategy is being used as the research focuses only on this select group of teachers who taught the core subject areas at the three schools, as well as those students who are in the classes taught by these teachers.

The teachers of the core subjects were specifically chosen to be a part of the sample because the research investigates the effects of teacher absenteeism on student achievement in the core subjects at the three schools. Further, this group of teachers would be knowledgeable on this issue, and would be able to suggest the perceived reasons which contributed to their absences. This highlights the main concern of purposive sampling which is to acquire information from those who are in a position to give it (Cohen et al., 2007). Additionally, only the students who are taught the core subjects by these teachers would be able to indicate how they perceive their teachers’ absences affected their achievement in these subjects. Hence, as this sample is limited to a selective group of the wider population, it is not representative of the entire population of teachers and students in Barbadian Secondary Schools and therefore findings will not be generalizable (Cohen et al., 2007; Creswell, 2012; Creswell & Creswell, 2018; Muijs, 2004). As well, there is the dilemma of the sample being skewed or biased because the entire population is not being represented (Cohen et al., 2007; Muijs, 2004). The teacher sample although not representative of all teachers of the three schools, is representative of all teachers of the core subjects in the three Barbadian Secondary schools as teachers hold similar qualifications according to the subject area being taught and are paid similar salaries according to their years of

experience. However, teacher experience may vary between schools where some schools may have more teachers with more years of teaching experience than others. Also, the age, year level and gender of the students in each class in the sample were similar across all three schools, but the socio-economic status of the students at the three Secondary schools can vary.

The sample was made up of a total of fifty-six (56) teachers, and eight hundred and forty students (840) at school A, sixty (60) teachers and one thousand (1000) students at School B, and a total of fifty-nine (59) teachers and one thousand and twenty-three (1023) students at school C, being the total of all the teachers and students at the three schools. A sub-sample was then drawn from the three schools to include only those teachers who taught the core subject areas as set by the Ministry of Education in the country of Barbados. These core subjects included English; Integrated Science; Math; Social Studies and Spanish. These subjects were chosen for the research as these are compulsory subject areas from first form to fifth form which students are required to pass when they are leaving school. This researcher therefore wanted to find out whether the absences of teachers had any impact on the achievement of students in these subjects. This sub-sample also included those students from the six classes from the first year, the second year, the third year and the fourth year from the three schools who were taught in the five core subject areas. Each class set contained between twenty nine to thirty-one students. In the fourth year, there was only one Spanish class at School C, but two at both Schools A and B. Only teachers who were on staff in the core subject areas during the period of 1st September 2011 to June 30th 2012 were used in the study. Therefore, teachers who were on maternity leave or away on a long term of absence for serious illness were not included.

The number of teachers who were included in the sub-sample of the study was thirty-eight from school A; thirty-eight from School B and forty teachers from School C. From this

amount, thirty-seven questionnaires were returned from School A; thirty-eight from School B and twenty-eight from School C. The actual teacher sample of School A consisted of five Heads of Departments, four Senior Teachers, twelve Experienced Teachers who were teaching for ten years and over, fifteen Teachers teaching for two years and over, but less than ten years, and one New Teacher teaching for more than one day but less than two years. For School B there were five Heads of Departments, three Senior Teachers, fifteen Experienced Teachers who were teaching for ten years and over, fifteen Teachers teaching for two years and over, but less than ten years, and no New Teachers. School C consisted of five Heads of Departments, two Senior Teachers, thirteen Experienced Teachers who were teaching for ten years and over, seven Teachers teaching for two years and over, but less than ten years and one New Teacher teaching for more than one day but less than two years; See Table 1.

TABLE 1

Number of Teachers in the Sub-Sample, their Experience at Schools A, B and C

No. of Teachers in Sample	School A	School B	School C
Head of Department (H.O.D)	5	5	5
Senior Teacher (S.T)	4	3	2
Teacher with Ten Years' Experience	12	15	13
Teacher with Two Years' Experience	15	15	7
New Teacher	1	0	1
Total No. of Teachers in Sample per school	37	38	28

The student sub-sample was Twenty-two Hundred students. This included Seven Hundred and Twenty from School A, Seven Hundred and Thirty-six from School B and Seven Hundred and Forty-four students from School C. There were a total of Two Hundred and Seventy-three male and Two Hundred and Seventy-seven female students from the first year who were eleven years of age, Two Hundred and Seventy-three male and Two Hundred and Seventy-seven female students from the second year who were twelve years old, Two Hundred and Seventy-two male and Two Hundred and Seventy-eight female students from the third year who were thirteen years old and Two Hundred and seventy-one male and Two Hundred and Seventy-nine female students from the fourth year who were fourteen to fifteen years old.

Table 2 summarizes the gender ratio across year groups in each school.

TABLE 2

Gender Ratio of Students for Schools A, B and C within Year Groups

	SCHOOL A		SCHOOL B		SCHOOL C	
YEAR LEVEL	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
1 st YEAR	90	90	92	92	91	95
2 nd YEAR	90	90	93	91	90	96
3 rd YEAR	90	90	90	94	92	94
4 th YEAR	91	89	89	95	91	95
TOTALS	361	359	364	372	364	380

Instruments

According to Muijs (2004), “It is possible to study a wide range of research questions using survey methods. You can describe a situation, study relationships between variables and so on” (Muijs, 2004, p.44). Therefore, to collect data on the perceived reasons for teacher absences at schools A, B and C, and answer Research Question 1a), a survey utilizing a questionnaire was administered to teachers of the core subject areas. Then to find out whether there were significant differences in the reasons for absenteeism based on specific teacher characteristics, regression analyses were conducted to answer Research Question 1b). Additionally, to ascertain students’ perceptions of teachers’ absenteeism and answer Research Question 2, a questionnaire was also employed. An analysis of school documents was then carried out by reviewing teacher absence data, as well as the examination of students’ end of year exam results for the period September 2011 to June 2012 to establish the scores gained by students for the core subjects, within each year group across schools. This information was necessary to conduct a correlation analysis to answer Research Question 3, and determine whether teacher absences impacted student achievement in the core subjects at the three Barbadian Secondary Schools. A regression analysis was subsequently conducted to answer Research Question 4 and find out whether the relationship between teacher absenteeism and student achievement differed between teachers with diverse characteristics at three Barbadian Secondary Schools. Following is an overview of each data source used to collect the data.

Document analysis. Using school documents allowed for factual information to be available for easy reference. Cortazzi (2002) further adds that this information can be used to

focus on the “analyses and classification of themes, keywords, and meanings” (p. 202) in the data collection process. Therefore, the schools’ absentee records for the selected teacher participants, along with the dates and reasons for these absences for the school year September 2011 to June 2012 were used. This data it was then cross referenced with the daily substitution list for absent teachers to ensure accuracy. The student test scores for the end of year June 2012 examinations in the core subject areas were also obtained from the records of the schools. The collection of this data was necessary to run the correlation analyses and regression analyses between teacher absences and student exam scores to answer Research Questions 3 and 4.

Questionnaires. The research also made use of the survey method by means of a mixed questionnaire with six dimensions, which used a combination of closed and open-ended questions (Muijs, 2004; Johnson & Turner, 2003) to collect data pertaining to the reasons for teachers’ absenteeism from school as perceived by teachers from the teacher questionnaire (Research Question 1). Data collected from the student questionnaire however, was to determine students’ perceptions of teacher absences at the participating schools in the study and answer Research Question 2. Using this instrument enabled respondents’ anonymity to be guaranteed, especially as the pencil-and-paper method was used, and no names were recorded. It also allowed the researcher to examine associations between variables (Muijs, 2004). However, as names were not recorded on the questionnaire, collected data could not be compared with that obtained from the school records, which gave the reasons advanced by individual teachers for their absences to see if there was any similarity in the information obtained.

In the formulation of the questionnaire for teachers, the teacher participants were differentiated according to their position at the school or years of teaching experience, by placing them into categories of Head of Department, Senior Teacher, Experienced Teacher (Teaching for ten years or over), Teacher (Teaching for two years and over, but less than ten years) and New Teacher (Teaching for one year or less). This was done for the purpose of differentiating their amount of teaching experience, so as to analyze the obtained data in the various categories to see whether the position they held or the length of time teaching, made a difference in their responses.

The teacher questionnaire (See Appendix B) took about thirty minutes to complete, using the pencil and paper format. The dimensions measured in the teacher questionnaire were 'Teacher ability to attend work' (5 items), 'Motivation and expectations' (16 items), 'Working conditions and environment' (9 items), 'Collegial relations' (4 items), 'Principal leadership style' (11 items), and 'Absences' (1 item). These dimensions of teacher absenteeism were based on suggested dimensions of teacher absenteeism advanced by (Rosenblatt & Shiron, 2005; Scott et al., 2007; Steers & Rhodes, 1978) who saw attendance motivation, ability to come to work and job satisfaction as the main reasons for teacher absenteeism. Additionally, the statements used in the questionnaire encompassed reasons advanced for teacher absences as found in the literature.

There were a total of forty-five closed questions and one open-ended question on the teacher questionnaire. The open ended question gave respondents an opportunity to further express their personal views. The closed questions were rated on a Likert scale, where respondents were given the opportunity to indicate their level of agreement or disagreement in rank order to a statement ranging from 1 Strongly Agree to 5 Strongly Disagree (Bell, 2002; Muijs, 2004). With open-ended questions, the respondent can freely give their own answers,

allowing the researcher to find out how persons view a situation (Muijs, 2004). Conversely, as responses are limited to categories in the closed questions, respondents are forced to select one of the options provided by the researcher (Muijs, 2004). Items which were negatively worded were reversed scored before the data were analyzed. Teachers were asked to place a tick under the number which indicated their choice of answer when completing the questionnaire. These ticks were then converted into the corresponding number for analysis.

One of the factors which determine the quality of the questionnaire is its reliability (Muijs, 2004). Reliability is concerned with the degree to which scores are void of measurement error or random error (Muijs, 2004) so that it can be replicated over time (Cohen, et al., 2007). Therefore, to ensure that the results of the research are trustworthy, the questionnaire must be reliable by statistically testing to find out if there are any “unusual response patterns that could indicate certain items have not been properly understood (Muijs, 2004, p.47). Consequently, to obtain an estimate of the internal consistency of the teacher questionnaire, Cronbach’s coefficient alpha was calculated for each quantitative sub dimension (See Table 3). This was to ascertain how well the items in each dimension were measuring the same construct (Cohen et al., 2007; Muijs, 2004). The Alpha obtained for all Dimensions was above 0.5 as seen in Table 3.

The descriptive statistics for the teacher questionnaire items is seen in Appendix C.

TABLE 3*Table of Cronbach's Alpha for Teacher Questionnaire*

Dimensions	No. of Items	Cronbach's Alpha
Teacher Ability to Attend Work	5	.68
Motivation and Expectations	16	.65
Working Conditions and Environment	9	.56
Collegial Relations	4	.73
Principal Leadership Style	11	.80

A student questionnaire was also used in the study (See Appendix D). The twenty-six items in the student questionnaire measured students' perceptions of teacher's attendance and student achievement to answer Research Question 3. When the questionnaires were distributed, the students were asked not to give the names of the teachers that they were making comments on, but to be general in their responses. The students were also placed into categories to differentiate their year level to find out whether year groups held different or similar views on teacher absenteeism. They were asked to place a tick under the number on the questionnaire which indicated their choice of answer on the rating scale from "Strongly Agree" to "Strongly Disagree" using the pencil and paper format (Bell, 2002; Muijs, 2004). These ticks were then converted into the appropriate number for analysis. Items one to twenty-five of the questions

were closed, while number twenty-six was open-ended (See Appendix D). As such, questions one to twenty-five were analyzed using a Principal Component Analysis, while question twenty-six was analyzed separately. A Principal Component Analysis was conducted to determine whether the items loaded strongly on the questionnaire, and to combine similar items that were measuring the same concept. Two items, Question 10 ‘Negative student behaviour is escalated because of teacher absences and Question 25 ‘Teacher absence is a hindrance to my academic achievement’ were found to be negatively worded and were therefore reversed scored before the questionnaire was analyzed. To find an estimate of the reliability of the student questionnaire, it was also statistically tested using Cronbach’s coefficient alpha (Muijs, 2004) (See Table 4). The estimate of reliability of all components were found to be high in value being over 0.80 and was therefore acceptable for use in the analysis. The descriptive statistics for the student questionnaire items is seen in Appendix E.

TABLE 4

Table of Cronbach’s Alpha for Student Questionnaire

Components	No. of Items	Cronbach’s Alpha
School Environment	8	.96
Student Achievement	7	.96
Student Support	9	.93

Procedure

Ethical considerations. Prior to conducting the research, ethical issues were considered, with “reasonably informed consent” (Cohen et al., 2007, p.53) being sought from all parties connected to the research, to officially conduct the research (Cohen et al., 2007; Creswell, 2012). Approval was sought and obtained from the Research Ethics and Data Protection Sub-Committee of the University of Durham U.K (See Appendix F), and permission from the Ministry of Education and Human Resource Development in Barbados (See Appendices G, J and K), and the principals at the selected secondary schools (See Appendices H, I and L). Teachers were told verbally at a staff meeting about the nature and purpose of the research and made to understand that they could refuse to become participants (Cohen et al., 2007; Muijs, 2004). They were assured that all information would be kept confidentially to avoid being traced back to them (Cohen et al., 2007; Creswell, 2012; Muijs, 2004) and were allowed to ask questions to clarify any areas which might not have been clear to them. They then indicated that they understood the nature of the research, and so were asked to be a part of the research, being seen as “responsible, mature individuals” (Cohen et al., 2007, p.52) to which they agreed. Permission was sought and obtained from the Principals and teachers of the core subject areas to conduct the research with their classes. Permission was received from the Principals and teachers on behalf of the students. Letters of consent were then sent home to the parents of these students requesting consent for the students to participate in the research, (Bell, 2002; Cohen et al., 2007). Parents were asked to sign and return a consent form to the school, giving or not giving consent for their child/ward to be a part of the research (See Appendix M). All of the consent forms for the students were returned before the start of the research, giving consent for them to participate. At the beginning of the research all participants were made aware that their names would not be used on any of the

documents to ensure anonymity throughout the research, to ensure that they did not suffer in any way from the findings (Bell, 2002; Cohen et al., 2007; Creswell, 2012; Muijs, 2004). All identifying marks such as the names of the schools, were also removed to further ensure anonymity and confidentiality as suggested by Bell (2002) and Cohen et al. (2007).

Data Collection

Data were derived from two sources; this included studying school records for the school year (September 2011 – June 2012) to obtain accurate records of teacher absences, the end of year examination scores for students at the schools in the five core subject areas and information from the teacher and student ‘pencil-and-paper questionnaires’. Data were collected at the ending of the school year 2011 – 2012 for Schools A and B, and then during the first three weeks of the new school year 2012 – 2013 for school C.

Data collected on students were test scores of students per teacher of each core subject area, per year group, from first year to fourth year, and the gender of students per year group per core subject. Test scores for students of the fifth year were not collected as they sat external examinations at the ending of the school year rather than internal examinations. All data was obtained from the Deputy Principals and school Secretaries at the schools. Student and teacher identifying information was then removed and replaced by a letter from the alphabet to ensure anonymity.

Having obtained the required permissions to conduct the study, the teacher questionnaire and student questionnaire which were developed by the researcher were first piloted to obtain feedback (Bell, 2002; Cohen et al., 2007). This was done with teachers and students from the

Art departments of the three schools who were not part of the research, two weeks prior to its distribution to those teachers and students in the sample. This department was selected as Art is not one of the core subjects at the schools and would therefore not be included in the research. Questions which were reported as being ambiguous from each questionnaire by the participants who were piloting the questionnaires, were noted and changes were made before they were distributed to the research participants (Bell, 2002; Cohen et al., 2007) one week later.

Two days after the distribution of the teacher questionnaires (See Appendix B), teachers at school A were reminded of the collection date. One day after, the questionnaires were collected from the teacher respondents, who had placed them in a sealed box in the staff room. Two days later, two final questionnaires were returned at school A, by the respondents pushing them under the locked door of the researcher. There was a 97% response rate from school A of the teacher questionnaire, as only one questionnaire was not returned. The students of all six first, second, third and fourth year classes at School A were then asked by the researcher to complete their questionnaire (See Appendix D) within a given period on the school's timetable one week later. The questionnaires were then collected at the ending of the period with a 100% response rate.

The second school in the study was School B. Permission was obtained from the Ministry of Education in Barbados as well as the Principal of school B to conduct the study at the school. The researcher then took both the teacher and student questionnaire to the school for distribution. The Principal of school B however, did not allow the researcher to personally distribute the questionnaire to the selected teachers of the core subjects who were a part of the sample. He distributed them himself, with the teachers being required to return the questionnaire to him on completion. Those in the sample were only those teachers at the school who taught the

core subjects. This saw a return rate of 60% from the teachers. Again the researcher was not allowed to participate in the distribution process of the questionnaires to the students of School B. The questionnaires were again distributed by the Principal to the Senior Teachers at the school for distribution to the classes in their year groups. This meant that the researcher had to return to the school on several occasions to collect the questionnaires from the Principal as they came in. The response rate for the student questionnaire at school B was 91.33% and the teacher questionnaire 60%. The researcher was promised by the Principal that the requested information pertaining to the absences of those teachers selected in the sample as well as the grades received by their students would soon be available for collection. After several visits and calls, the researcher was told by the principal that it was proving difficult to retrieve the data on student scores and teacher absences from the database, but that it was being worked on and it would be forwarded to the researcher as soon as it became available.

After two months of promises with no further data forthcoming, the researcher decided to make use of the limited data collected from school B, such as the questionnaires, and make contact with another school before the new school year had officially begun for inclusion in the study. The researcher gained consent from the Ministry of Education to use the new school in the research. A letter was presented of such to the Principal of school C who proved to be very cooperative by making arrangements so that data could be collected the following week when school began. School C has a roll of 1023 students and 59 staff members. Teachers at the school, along with the students, now became a part of the research during the first three weeks of the new school year 2012-2013. The data collected, however, was also pertaining to the school year 2011–2012, as was that collected for school A and School B. During the first week of September of the new school term, the teacher questionnaires were distributed to the sample of

teachers from the school which had now become school C in the research. A collection box was left on a table in the school's office, where teachers placed their completed questionnaires. Forty questionnaires were distributed and twenty-eight were returned one week later. This was a response rate of 70%.

At the beginning of week two, the students of all six classes per year group were given the student questionnaire to complete within a scheduled class. This was done under the supervision of the class teacher. All of the questionnaires distributed to the students were collected as students randomly placed them in a pile on the teacher's desk. All of the questionnaires were then returned to the schools' office and placed in a sealed box and returned to the researcher by the school Secretary. There was a 100% response rate from the student questionnaire at school C. On the following day, the student scores for the core subjects in the last end of year examinations, the total absences for the school year and reasons given for these absences by the teachers selected as participants, were emailed to the researcher by the school's Secretary. Once received, identifying information on the participants was erased from the computer of the researcher.

As data were collected, the date, time and location were noted in a journal and stored in a private and locked filing cabinet away from the location of the research. This information was also stored on a private computer for back up purposes. Teacher absence data as well as student examination scores from each school were entered into The Statistical Package for the Social Sciences (S.P.S.S) programme 17.0 and stored on the computer of the researcher in preparation for data analysis to answer the Research Questions. In the collection of the qualitative data, selected words and phrases which were similar in meaning were grouped together by the

researcher. This was to give a clearer understanding of the collected data so that it would be easier to analyze.

Statistical Procedures

The aim of this research is to investigate the reasons for teacher absences, students' perceptions of teacher absences, and determine the relationship of teacher absenteeism and student achievement in three Barbadian Secondary schools. To do this, various forms of statistical quantitative data analysis were employed. Following are the statistical procedures used in the research.

Data obtained from the teacher questionnaire to answer Research Question 1a) was analyzed using Principal Component Analysis, as this procedure allowed the researcher to condense the amount of variables from the questionnaire which measured similar concepts into a reduced number of underlying factors (Cohen et al., 2007), to establish the reasons for teacher absenteeism. For the Teacher Questionnaire for Schools A, B and C, the (KMO) was 0.96 which was above the required 0.6, with the Bartlett's Test of Sphericity being significant at $p < .001$. All of the items on the diagonal of the anti-image correlation matrix were well above 0.4; forty-four of the communalities were all above 0.5, with one being below 0.4. This indicated that there was a relationship between the questionnaire items, and confirmed that "patterned relationships" (Yong & Pearce, 2013, p.88) existed with the absence of multicollinearity, and the data was adequate for conducting the Principal Components Analysis (PCA). The forty-five item responses from one hundred and three teacher questionnaires for the three schools were then factor analyzed.

The Total Variance Explained (Kaiser's eigenvalue of higher than one criterion) (See Table 5), suggested that four components should be extracted and was supported by the Scree Test (See Fig.1) which showed a definite change in direction after the fourth eigenvalue on the plot where the line becomes almost flat. The Monte Carlo PCA for Parallel Analysis which was also used to determine the amount of components to extract also suggested extracting four components. This was one less component than the five components which was predetermined in the original questionnaire structure, suggesting that the items in one of the previous components were related to the items within some of the other components.

TABLE 5

Total Variance Explained (Kaiser's eigenvalue of higher than one) for Schools A, B and C

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total
1	33.481	76.093	76.093	30.113
2	2.483	5.643	81.736	28.738
3	1.440	3.272	85.008	26.609
4	1.137	2.583	87.591	12.777

Extraction Method: Principal Component Analysis

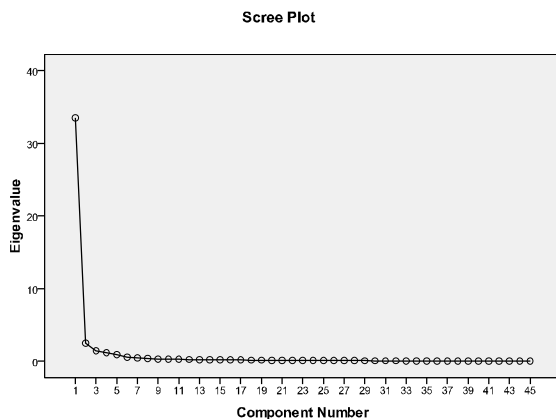


Figure 1. Scree plot (Teacher Questionnaire for Schools A, B and C).

The components were extracted using Principal Component Analysis with the amount of 0.3 being established as the cut-off point for the loadings. Together these four extracted components explained a considerable 87.59 percent of the variance in the data and also had significant loadings on them (See Table 5). A Promax oblique rotation was selected as the components were expected to correlate with each other to obtain a simple structure. One item “Do you usually give your students an explanation for your absence from class?” was seen to be a complex item as it loaded on two of the components (See Appendix N). This item was removed from the analysis and a simple structure was obtained after the PCA was again conducted. As the number of components and the location of some of the items had changed due to the PCA, the questionnaire components had to be renamed. After rotation, the variance had become more evenly distributed (See Table 5) and Component 1 was now categorized as ‘Persona/ Circumstantial/ Factors’ (19 items), with the majority of the items being contained in this component. The items on this component were all measuring the reasons which might prevent the teacher from coming to work. The first two items on this component with the most

substantial loadings were: 'Class size has contributed to my being absent from work' and 'my ability to be present for work has been influenced by a particular day of the week'. Component 2 was renamed 'Staff Relations' (13 items). This component measured the relationships between staff and the principal and staff. This component was so named as a result of the first two items which had loaded strongest. These included: 'The principal is actively involved in conflict management amongst staff' and 'I believe that teachers are treated equally at the school by the principal'. Component 3 was renamed 'Job Satisfaction and Motivation' (9 items) as the two highest loading items: 'I have high expectations from the job and this influences my decision to be present for work', and 'I have a comfortable feeling within the school environment and am therefore present for work', considers the level of satisfaction and motivation the teacher has for the job. The final Component 4 'Policy and Procedural Factors' (3 items), examined how sick leave policies might contribute to teacher absenteeism. The two strongest loading items on this component which contributed to its new name was: 'I have exhausted most of my allocated sick days for the academic year' and 'I take the sick days which I am allowed with full pay in a given year because they are available'. The Pattern Matrix of the Teacher Questionnaire after the Promax rotation was conducted with one item deleted is seen in Appendix N.

A frequency table was then created to answer question 45 of the teacher questionnaire which was qualitative in nature and so was being analyzed separately. Teachers were asked to give three reasons which might cause them to be absent. The reasons given were then grouped into categories to make it easier to understand their meaning. Similar words and phrases were then coded for analysis. To understand how often a particular response was given and in what percentage, a frequency table was used to analyze the data. Ten categories emerged from the data (See Table 7). Illness, (20.1%) was found to be the highest percentage recorded in a

category. The other categories found were Personal Business/ Appointments (17.5%); School Tours/ Workshops (15.5%); Emergencies (11.0%); Disillusionment (10.0%); Lack of Support (8.7%); Union Meeting/ Ministry of Education Meeting (7.4%); Transportation (4.9%); Attending Funerals (4.2%); and Accidents (.6%).

A one-way analysis of variance (ANOVA) was then computed on the reasons for teacher absences and the experience level of the teacher to find out if they varied significantly. This was to answer Research Question 1b).

Like with the teacher questionnaire, the student questionnaire data was also first analyzed by means of Principal Component Analysis (PCA) to reduce the amount of variables from the questionnaire into a fewer number of underlying factors (Cohen et al., 2007) to obtain student perceptions of teacher absenteeism. To establish the suitability for conducting the Principal Components Analysis on the student questionnaire, various recognized tests for factor analysis assumptions were conducted. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .951 which was well above the required 0.6, and the Bartlett's Test of Sphericity was significant at $p < .001$. All of the items on the diagonal of the anti-image correlation matrix were mostly above 0.8, indicating that the sample would be adequate for the Principal Component Analysis to be conducted. Principal Components Analysis was then used to extract and examine the inter-correlations amongst the variables, to categorize and reduce them into fewer components for analysis. The Scree Plot, (See Figure 2), was then considered in determining the amount of components to extract which suggested extracting three. This was due to the plot showing a distinct change in the direction of the slope at the third component. This was supported by the Kaiser's eigenvalue of higher than one criterion which also suggested extracting three components. Table 6 shows the total variance explained by the student questionnaire.

TABLE 6

Total Variance Explained (Kaiser's eigenvalue of higher than one for Student Questionnaire, Schools A, B and C)

Component	Initial Eigenvalues		Rotation Sums of Squared Loadings	
	Total	% of Variance	Cum. %	Total
1	10.678	44.492	44.492	7.620
2	4.403	18.346	62.838	8.312
3	3.296	13.731	76.569	7.493

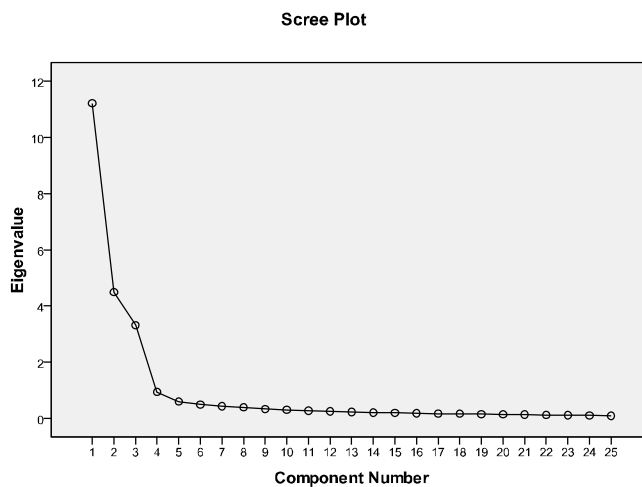


Figure 2. Scree plot for student questionnaire for schools A, B and C.

To make the components more interpretable, they were rotated using the Promax oblique rotation method as the items were expected to be related to each other. Each component on the Pattern Matrix was then named according to their item loading. The three extracted components

combined explained a considerable 76.57% of the variation in the data; See Table 6. The three components were categorized as component 1, 'School Environment' (8 items), considers whether the conditions at school are conducive to student learning. Component 2, 'Student Achievement' (6 items) considered how effective the teacher is in the classroom and the level of teacher commitment to their students at the school, while Component 3, 'Student Support', examined the level of support by teachers that the student receives at the school.

All of the loadings on the components were of high positive values and this showed that there was a close relationship between these observable variables and their components, and the variables could be used to adequately explain it. There was a cross loading of one of the variables which loaded on both Component 1 and Component 2. As both loadings were identical in number, this variable 'Teacher Absence is a hindrance to my academic Achievement' was removed from the analysis so that a simple structure could be obtained. The Component analysis was then run again and a simpler structure was achieved. Together, these three components were now explaining 77 % of the variance in the data on the Pattern Matrix (See Appendix O).

Question 26 on the student questionnaire required written responses and so qualitative data was garnered. Students were asked to suggest reasons which they felt might contribute to teacher absenteeism at the schools. The information gathered was grouped according to reason given and then categories were established as was done with the teacher questionnaire. Codes were then assigned to the categories for easy reference. The Categories of reasons suggested by the students for their teacher's absence included Not Wanting to Teach; Personal Appointments; Student Behaviour; Illness; and Meetings. A frequency table was then used to calculate the percentage response of the students according to their gender to see if they differed. Then to answer Research Question 3, Pearson Product Moment Correlation was used to measure and

explain the relationship between teacher absence data and student averages (Gravetter & Wallnau, 2013), and indicate if one variable could predict the other (Creswell, 2012). As this research focused on measuring the level of association between variables (Creswell, 2012), a correlation analysis was the suitable choice for analyzing the data.

A regression analysis was then conducted to analyze Teacher Absence data, Teacher Characteristics, and Student Averages to answer Research Question 4 and determine whether the relationship between teacher absenteeism and student academic attainment differed between teachers with diverse characteristics at the three Barbadian Secondary schools.

All collected data from the research questions will be analysed and later compared to findings from previous research to give meaning to the results.

Chapter 4

Results

This chapter analyzes the teacher absence data and student test scores of the three Barbadian Secondary schools used in the study, to determine if there is a relationship between teacher absences and student achievement. A frequency table was first used to analyze the teacher data and answer Research question 1a, while descriptive statistics and an ANOVA were used to answer Research question 1b. Another frequency table was then used to analyze the student data. This was followed by the use of correlation analyses to answer Research question 3, and Regression analyses to answer Research question 4.

Research Question 1a)

This research question sought to find out the reasons teachers gave that contribute most to their absences from work at the three Barbadian Secondary schools. Teacher absences varied between schools, and ranged from 1- 40 days at School A, 0- 30 days at School B and 0-56 days at School C. A frequency analysis revealed the following ten most common reasons given by teachers for their absences, and the percentages of the responses to each category of reason (Table 7).

TABLE 7*Reasons for Teacher Absences*

Reasons	Head of Department	Senior Teacher	Experienced Teacher	Teacher (Teaching Two years)	New Teacher	Total
Illness/ Sick Leave	7 (11.3%)	3 (4.8%)	25 (40.3%)	25 (40.3%)	1 (2.9%)	99.6%
Emergencies	3 (8.8 %)	0 (.0%)	20 (58.8%)	10 (29.4%)	1 (2.1%)	99.1%
School Tours/ Workshops	5 (10.4%)	2 (4.2%)	20 (41.7%)	20 (41.7%)	1 (2.1%)	100.1%
Lack of Support	8 (29.6%)	5 (18.5%)	4 (14.8%)	10 (37.0%)	0 (.0%)	99.9%
Disillusionment	7 (22.6%)	5 (16.1%)	5 (16.1%)	14 (45.2%)	0 (.0%)	100.0%
Union Meetings/ Ministry Meetings	5 (21.7%)	3 (13.0%)	10 (43.5%)	5 (21.7%)	0 (.0%)	99.9%
Transportation Issues	2 (13.3%)	3 (20.0%)	4 (26.7%)	6 (40.0%)	0 (.0%)	100.0%
Personal Business/ Appointments	5 (9.3%)	6 (11.1%)	23 (42.6%)	18 (33.3%)	2 (3.7%)	100.0%
Accident	0 (.0%)	0 (.0%)	2 (100.0%)	0 (.0%)	0 (.0%)	100.0%
Funeral	3 (23.1%)	0 (.0%)	7 (53.8%)	3 (23.1%)	0 (.0%)	100.0%

Following is an analysis of the reasons given by the teachers for their absences.

Illness. Teachers teaching for ten years and over and those teaching for two years and over, but less than ten years, were absent most due to illness. The majority of the teachers in any category agreed that illness caused them to be most often absent (See Table 7). However, there were several other reasons which also caused them to absent themselves from school which did not include sickness. These two category of teachers responded in a majority of 40.3% each to suggest this as a reason for their absence. The other reasons given by teachers as seen in Appendix P were offered to a much lesser extent. A teacher teaching for two years and over but less than ten years indicated that “When I am ill I don’t come”.

Emergencies. While none of the senior members of staff indicated that having emergencies caused them to be absent from school, a large number of teachers teaching for ten years and over were absent due to this reason. The only other category of teachers who saw this as a major reason for their absences was teachers teaching for two years and over, but less than ten years; See Table 7. A long standing teacher of ten years and over made the comment “I am a married woman so I will have emergencies” as a reason for absences.

School tours/workshops. Teachers teaching for two years and over but less than ten years, and ten years and over spent a lot of their time attending tours and workshops, and this contributed to their absences from school. This was significantly higher than any reason given by any other category of teacher (See Table 7). Senior Teachers and New Teachers teaching for more than one day but less than two years seemed to seldom leave school for these purposes. Some of the teachers teaching for ten years and over stated a similar comment that taking the students on the school tours was a part of the examination syllabus, and so the tours were needed.

Lack of support. Many of the teachers (37.0%) indicated that they felt that they were not being given the much needed support from the principal. This was the largest response made in this category, and again by the teachers teaching for two years and over, but less than ten years. High levels of senior staff, both Heads of Departments and Senior Teachers (Table 7), similarly felt that teachers generally do not support each other at the schools and that the principal needed to also support them more when required.

Disillusionment. Where working conditions were not what was expected at the schools, teachers have become disillusioned. Teachers at the schools, teaching for two years and over but less than ten years were so disillusioned that they absented themselves from school more than any other category of teacher (See Table 7).

Union meetings/ Ministry meetings. Teachers teaching for ten years and over were the most absent in this category. Their absence doubled that of any other teacher grouping in this category (See Table 7). The New Teachers teaching for more than one day but less than two years, were either not a part of a union nor were invited to meetings at the Ministry of Education.

Transportation. New Teachers teaching for more than one day but less than two years did not seem to have a problem with transportation and so did not offer this as a possible reason for their absences. Teachers teaching for two years and over but less than ten years however, seemed to have issues with transportation as they mostly offered this reason for their absences (See Table 7). There were several similar comments made by teachers teaching for two years and over but less than ten years which included, “I have to wait for a lift” and “I can’t get there if I can’t get a ride”.

Personal business/ Appointments. Due to the unavailability of adequate free time, teachers were forced to schedule personal appointments during teaching time and this has caused them to be absent. Teachers teaching for ten years and over mainly offered this as a reason for their absence, while those teachers teaching for two years and over but less than ten years, offered this as a reason for absence to a lesser extent (See Table 7). According to the responses given by Heads of Departments and the New Teachers teaching for more than one day but less than two years, they seldom stayed away from school to conduct personal business.

Accidents. The only category of teacher which indicated this as a reason for their absence was teachers teaching for ten years and over. However, only a small number of these teachers were absent for this reason (See Table 7).

Funerals. The teachers most likely to stay away from school to attend funerals were teachers teaching for ten years and over (See Table 7). This was a quite a large number and was more than double that of the other category of teacher who offered that reason for absence. No Senior Teacher or New Teacher teaching for more than one day but less than two years indicated that they were absent from school to attend a funeral.

Research Question 1b)**TABLE 8***Descriptive Statistics for Teacher Questionnaire Components*

	N	M	SD
Personal Circumstantial Factors	103	3.1543	1.22152
Staff Relations	103	2.9544	1.31090
Job Satisfaction and Motivation	103	3.0680	1.32077
Policy and Procedural Factors	103	3.5016	1.12689

The reasons observed for teacher absences from the PCA were categorized as Personal Circumstantial Factors; Staff Relations; Job Satisfaction and Motivation; and Policy and Procedural Factors. A statistical descriptive test was conducted to see which of these reasons accounted most for teacher absences. The mean scores were rated basically the same, but however showed that the main reason teachers stayed home was because of Policy and Procedural Factors which had the highest average score of 3.50 (See Table 8). This meant that the variables combined in that component, caused teachers to be absent most. On the contrary, teachers stayed home least because of Staff relations which had a slightly lower average score (See Table 8).

To find out if the reasons for teacher absence varied significantly based on specific teacher characteristics, a one-way analysis of variance (ANOVA) was then computed, where the teacher experience level was compared with the dimensions of Personal Circumstantial Factors;

Staff Relations; Job Satisfaction and Motivation; and Policy and Procedural Factors. The results from the analysis revealed that regardless of the experience level of the teacher; there were no statistically significant differences in Personal Circumstantial Factors; Staff Relations; Job Satisfaction and Motivation; or Policy and Procedural Factors. The reasons for teacher absences were all more similar than they were different. The Pearson Chi Square showed that all of the p values are greater than 0.05 so there are no significant differences. For Personal Circumstantial Factors the significant level was: $F(4, 98) = 0.297, p > 0.05$; Staff Relations: $F(4, 98) = 0.392, p > 0.05$; Job Satisfaction and Motivation: $F(4, 98) = 0.357, p > 0.05$; and Policy and Procedural Factors: $F(4, 98) = 0.878, p > 0.05$. These results showed that regardless of the experience level of the teachers at the schools, there were no significant variances in the reasons for why they were absent from school.

Research Question 2

To discover those variables which combine to create the dimensions that measure student perceptions of teacher absenteeism, a Principal Component Analysis was conducted on the student questionnaire. The three extracted components were categorized as School Environment; Student Achievement; and Student Support. An exploration of the reasons from the free responses on the student questionnaire gives an insight that supports how the student felt about their teachers' absences, Table 9 give details of the perceived reasons for teachers' absences as advanced by the students.

TABLE 9*Students' Perceived Reasons for their Teachers' Absences*

Student Behaviour	221 (20.3%)	176 (15.8%)	397 (18.0%)
Illness	186 (17.1%)	237 (21.3%)	423 (19.2%)
Personal Business/Appointments	285 (26.2%)	277 (24.9%)	562 (24.9%)
Meetings	89 (08.2%)	77 (06.9%)	166 (07.5%)
Not Wanting to Teach	308 (28.3%)	344 (31.0%)	652 (29.6%)

Following are details of the suggested reasons for teachers' absences as advanced by the students in the questionnaire.

Student behaviour. The male students mostly indicated that student behaviour might be the cause of teachers absenting themselves from class. This was in comparison to a much lesser female response in this category who did not feel as strongly (See Table 9). The suggestion of this reason indicate that the students are well aware that their deviant behaviour is driving the teachers away from the classroom. As more males suggested this reason, it further indicates that they most likely are the ones who are disruptive in class. Their behaviour may be so overbearing to the teacher that they prefer to stay at home rather than attend these classes. A male student

suggested that “some teachers fed up with the children.” This is a further indication that some of the behaviours of the students may be frustrating the teachers.

Illness. The third most advanced reason by the students for teacher absence was illness. In this category, female students seemed to be more compassionate towards their teachers and believe that most of the time when they are absent it is due to illness. This is seen by their sizeable response in comparison to the male response (See Table 9). With only a few male students offering illness as a reason for their teachers’ absences, this is an indication that they believe that their teachers are just staying away from school for other reasons. A first year male student pointed out that “some claim to be sick” showing that he did not truly believe that they are all sick when they say they are.

Personal business/ Appointments. A sizeable amount of students suggested that their teachers were absent because they were conducting their personal business or going on appointments. This was the second highest reason which students attributed to their teacher’s absences. This reason was mostly suggested by the males who marginally outnumbered the female in their responses (See Table 9). This category also saw the highest response from both male and female students for any suggested reason. A male third year student believed that “some of them might be going through things at home”, while a second year female student, who seemed compassionate for her teachers, indicated that “some teachers might be too busy to come to class or probably forgot”

Meetings. Another reason advanced by the students for teacher absences was “the teacher was attending a meeting. This might have been a reason that they were accustomed to hearing from their teachers when they did not come to class. This feeling might not be shared by many of the students as the amount of students who suggested this reason was small in number

as only a small percentage of male, to a smaller percentage of female suggested this reason (See Table 9). This might suggest that students know that meetings are not usually held at the schools during teaching time so that could not be a reason for their absences. The students might further believe that if a staff meeting was being held, the school would be closed as no teacher would be available to supervise them, or it would remain open with prefects being sent to supervise them if it is a short meeting. Based on the responses it would appear that this does not happen and so students do not believe meetings are being held.

Not wanting to teach. More female than male students believed that the teacher did not want to teach the classes and so are away from classes often (See Table 9). As there are more students suggesting this reason as opposed to any other reason why they believe that teachers are absent, would suggest that there is a problem with the time teachers spend away from the classes at the schools. Also, the general attitude of teachers when they go to the classes might make the students believe that they do not want to be there, as a third year student who was female indicated that “some teachers don’t care and are lazy when it comes to teaching the students because they know that whether they teach us or not they will be paid.” A fourth year male felt that “some don’t teach at all, and when they are absent it makes it worse, especially if they teach the hard Science subjects”, while a third year female indicated that “some of the teachers are lazy and do not want to teach and so they stay at home”.

To highlight another instance where a student indicated that they felt that the teacher did not want to teach, a female fourth year student whose classes seemed to be regularly affected by teacher absenteeism indicated that “Some teachers like to go with the statement *Peter pays for Paul and Paul pays for all*. So if one student does something wrong, the whole class pays for it with the teacher staying in the staffroom and not coming to the class. One student came to the

realization that when she was not taught it could eventually be detrimental to her studies and pointed out “I really feel the children are happy because of the free periods but when you look back you realize that the days your teacher has been absent that has been work missed and I feel the teacher should have to give a good excuse for their absence”.

Research Question 3

To answer Research Question 3 and determine the relationship between teacher absences and student achievement in the core subjects at the schools, Pearson Product Moment Correlation was conducted between teacher absence data, and the total student averages for each of the core subjects of Math, English, Spanish, Integrated Science and Social Studies in each year group at Schools A and C. An Alpha of 0.05 was used for each correlation analysis. These analyses were limited to Schools A and C only, as no student exam scores were available for School B. The analyses were controlled by subject within each year groups and then by subject within each school to see if teacher absenteeism differed between schools and year groups.

Correlation Analyses

School A. The first correlations conducted were for the first form core subjects at School A. It was determined that a non-significant relationship existed between teacher absences and student achievement in first form Math, English, Spanish, Integrated Science, and Social Studies at School A. There was however, a positive and moderately statistically significant relationship, $r(33) = +.36, p \leq .05$, two-tailed, between Policy and Procedural Factors and student achievement in first form English at School A.

In the second form at School A, it was found that teacher absences impacted negatively on student achievement in Spanish, $r(31) = -.37, p \leq .05$, two-tailed. None of the other core subjects of Math, English, Integrated Science or Social Studies had significant relationships with teacher absences. Personal Circumstantial Factors was found to have a strong negative effect $r(31) = -.51, p \leq .001$, 2-tailed, on second form English averages, while Job Satisfaction and Motivation had a moderate positive relationship, $r(31) = +.42, p \leq .05$, two-tailed, with second form English averages.

The third form at School A showed no significant relationships between teacher absent days for any of the core subjects of Math, English, Spanish, Integrated Science or Social Studies and student exam averages. Correlation results also showed that there were no significant relationships in fourth form between teacher absences and student achievement in any of the core subjects at School A.

School C. In first form there were no significant relationships between teacher absences in Math, English, Spanish or Integrated Science and student exam averages at School C. However, teacher absences had a significant positive effect, $r(32) = +.34, p \leq .05$, two-tailed, on the grades first formers received in Social Studies at school C.

In the second form correlation teacher absences had no significant relationship with student averages in Math, English, Spanish, Integrated Science or Social Studies at School C. While teacher absences were not significantly related to student averages in the third year at School C, Job Satisfaction and Motivation however had a significant negative impact, $r(33) = -.30, p \leq .05$, two-tailed, on the averages received by students of the third form.

Conversely, there was a positive significant relationship, $r(20) = +.38, p \leq .05$, two-tailed, between teacher absences for fourth form English and fourth form student exam averages at School C. Policy and Procedural Factors was also found to have a negative statistically significant relationship, $r(20) = -.32, p \leq .05$, two-tailed, with fourth form English exam scores. Also, there was a moderate, positive statistically significant relationship, $r(20) = +.49, p \leq .05$, two-tailed, between Personal Circumstantial Factors and fourth form Spanish averages. A moderate negative relationship, $r(20) = -.59, p \leq .05$, two-tailed, existed between Staff Relations and fourth form Spanish averages at School C. Job Satisfaction and Motivation also had a negative significant relationship, $r(20) = -.50, p \leq .05$, two-tailed, with fourth form Spanish grades at School C.

To see if results differed when the entire school in each core subject was considered together in the correlation, additional correlations were conducted.

School A. Pearson Product Moment Correlation was now conducted between teacher absence data and the total student averages for each of the core subjects at Schools A and C. An Alpha of 0.05 was also used for each of the analyses.

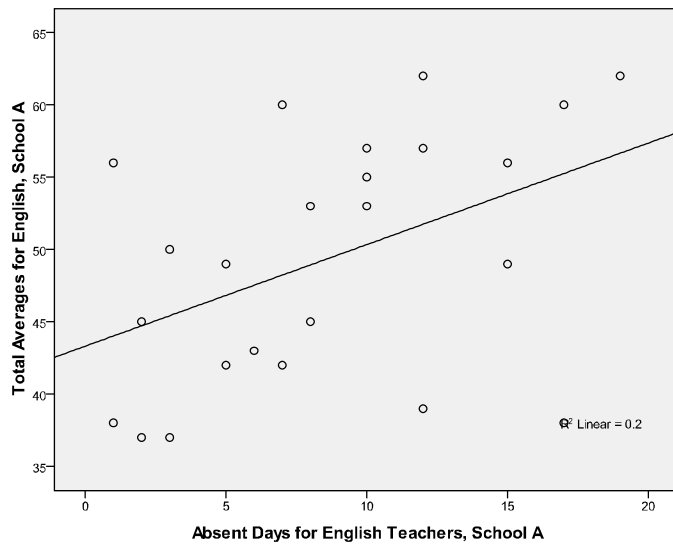


Figure 3. Scatter plot for English, School A.

There was a moderate, positive correlation between Teacher Absences for English and Total English Averages at school A, $r(22) = +.51, p < .05$, two-tailed. The points are scattered along the line of best fit, some are still close and still show a moderate ascending linear formation. There are two outliers which are further away from the other points. The Scatter plot in Figure 3 sums up these results. This result suggests that increases in Teacher Absences for English at School A, is associated with increases in Total English Averages at School A.

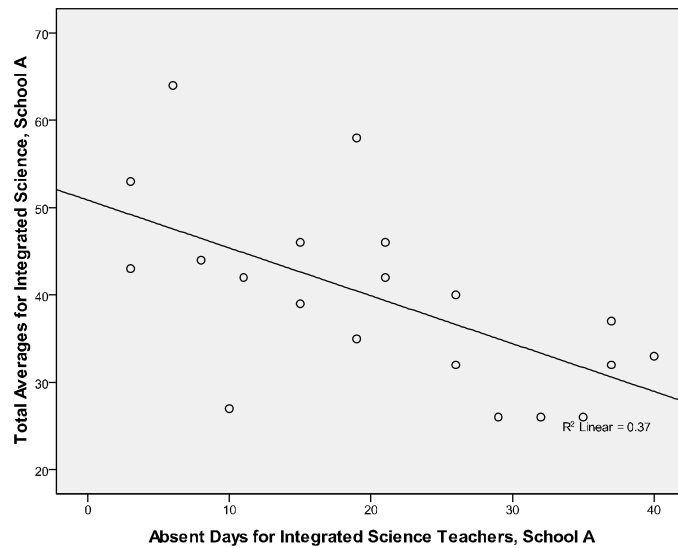


Figure 4. Scatter plot for Integrated Science, School A.

The results of the correlation between Absent Days for Integrated Science Teachers at School A and Total Integrated Science Averages at School A, show that there was a moderate negative association between the two variables, $r(18) = -.60$, $p < .05$, two-tailed. This relationship was also statistically significant. The Scatter plot shows a linear movement between the points, with most of them hovering close to the line of best fit; See Figure 4. This result suggests that when Absent Days for Integrated Science Teachers at School A increases, it is associated with lower Integrated Science Averages at School A.

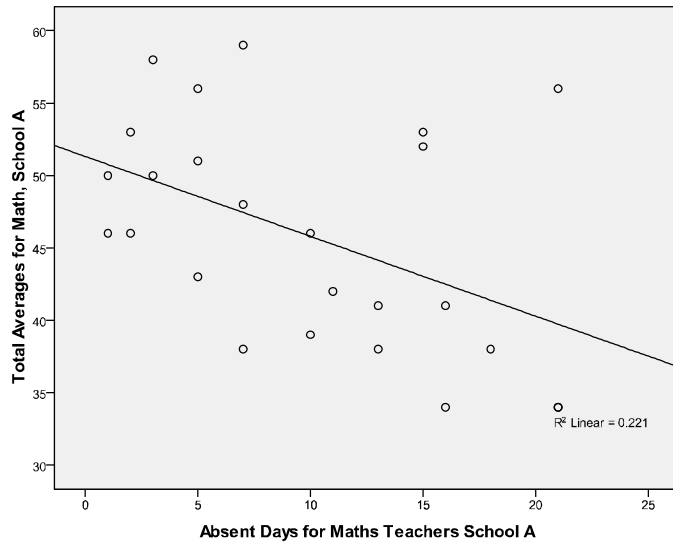


Figure 5. Scatterplot for Math, School A.

In this analysis for Total Absent Days for Math Teachers at School A and Total Averages for Math at School A, there was a significant negative association between the two variables, $r(23) = -.47, p < .05$, two-tailed. The points along the line of best fit show that some of the points are very close to the line while the others are scattered; See Figure 5. This indicates that there is a weak linear association between the variables. Again this implies that when absences for Math Teachers at School A increases, their student averages will decrease.

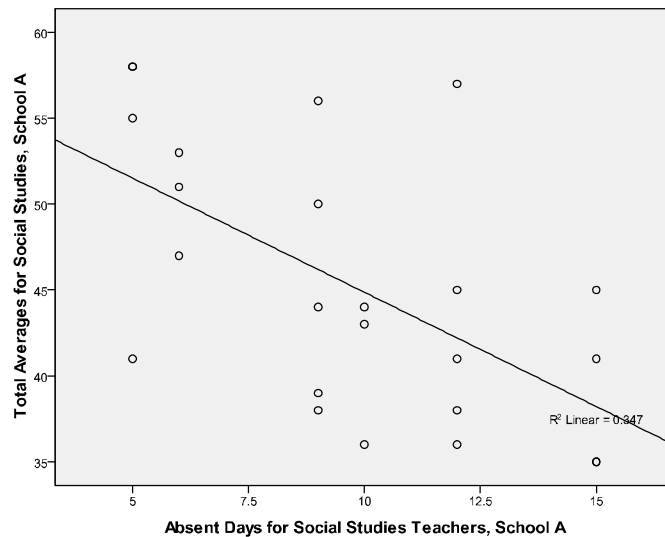


Figure 6. Scatter plot for Social Studies, School A.

Results for the correlation between Total Absent Days for Social Studies Teachers at School A, and Total Social Studies Averages at School A indicate that there was a moderate, statistically significant negative association between the two variables, $r(22) = -.58$, $p < .005$, two-tailed. This negative association is summarized in the Scatter plot; Figure 6, which show some of the points close to the line of best fit, while some are away from it. This indicates that there is still a moderate linear relationship between the two variables. Therefore, increases in Total Absent Days for Social Studies Teachers at School A, is associated with a decrease in Total Social Studies Averages at School A.

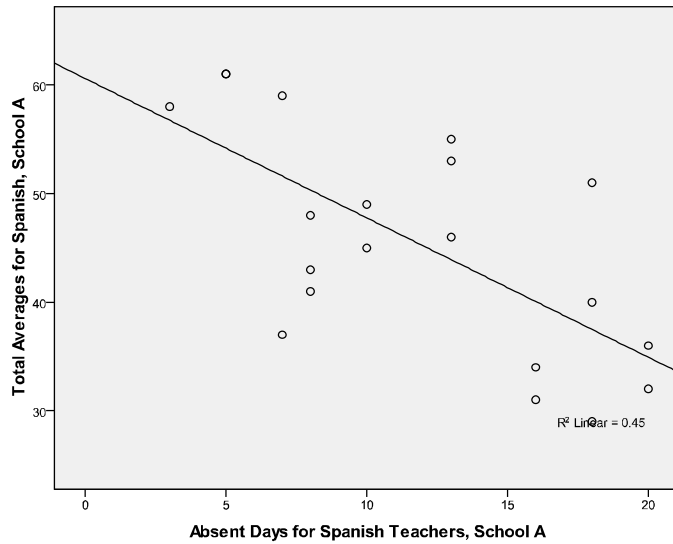


Figure 7. Scatter plot for Spanish, School A.

The correlation between Absent Days for Spanish Teachers at School A and Total Spanish Averages at School A, also showed a moderate, negative association between the two variables, $r(18) = -.67, p < .05$, which was statistically significant. The Scatter plot show that many of the points are scattered around the line of best fit, although some are very close to the line; See Figure 7. This indicates that there is a linear relationship between the two variables. This result also suggests that when Absent Days for Spanish Teachers at School A increases, Total Spanish Averages at School A will likely decrease.

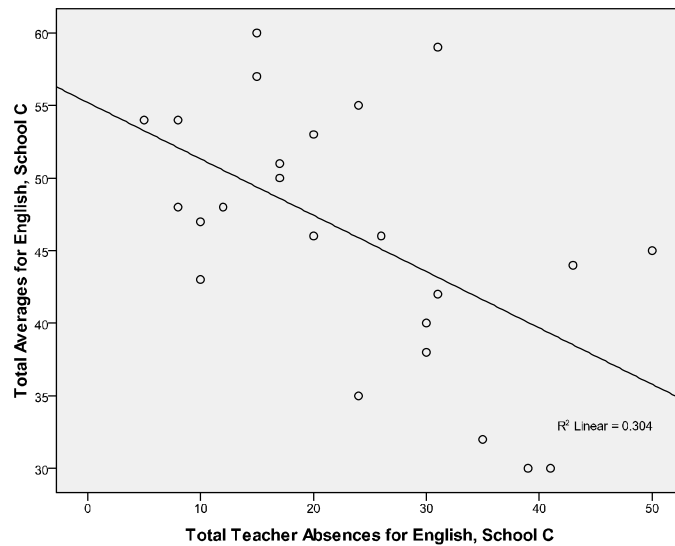


Figure 8. Scatter plot for English, School C.

School C. In the first analysis between Absent Days for English Teachers at School C and Total English Averages for School C it was revealed that there was a negative statistically significant association between the two variables. The relationship is not very linear as the points are scattered with many away from the line of best fit. Although there are a few points which can be considered as outliers, they are not that extreme. This moderate linear relationship between the variables was also statistically significant, $r(22) = -.55, p \leq .005$, two-tailed. This result would suggest that increases in English teacher absences at School C were correlated with a decrease in Total English Averages. Figure 8 summarizes these results.

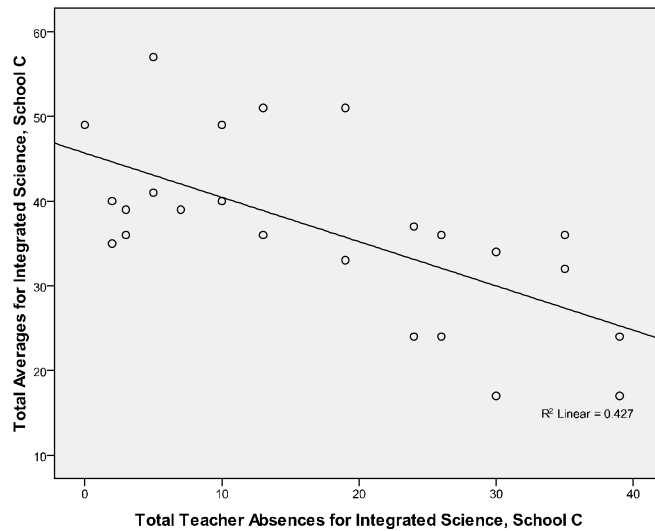


Figure 9. Scatter plot for Integrated Science, School C.

In the correlation analysis between Absent Days for Integrated Science Teachers and Total Integrated Science Averages, this association was also a moderate negative statistically significant association, $r(22) = -.65$, $p < .05$, two-tailed. Figure 9 summarizes these results and suggest that this relationship is not a perfect linear, nor a strong one as many of the points along the line of best fit are spread. This result further suggests that increases in Integrated Science Teachers Absences at School C, is associated with lower Integrated Science averages at School C.

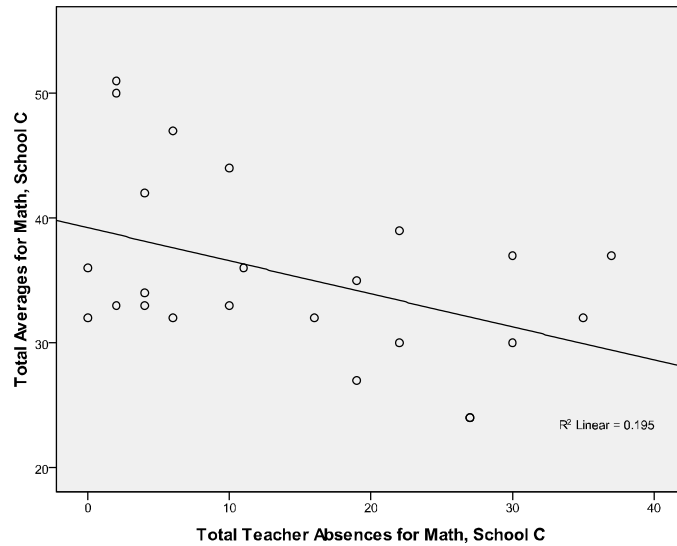


Figure 10. Scatter plot for Math, School C.

Likewise, the results of the correlation between Absent Days for Math Teachers at School C and Total Math Averages at School C, also show a negative association between the two variables, $r(22) = -.44$, $p < .05$, two-tailed. This relationship was statistically significant, but was a weak one, which is clearly seen in the scatter plot where most of the points are scattered around the line of best fit, with only three points being close to the line; See Figure 10. However, a linear movement is still seen between the points. This result suggests that when Absent Days for Math Teachers at School C increases, Total Math Averages at School C will likely decrease.

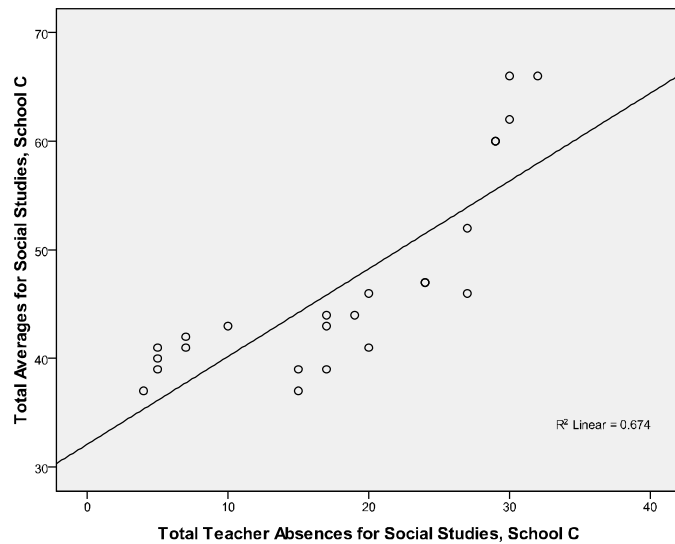


Figure 11. Scatter plot for Social studies, School C.

There was a very strong positive, linear association between Total Social Studies Averages at School C and Absent Days for Social Studies Teachers at School C. This relationship between the two variables was a positive linear one, $r(22) = +.82, p < .05$, two-tailed.

This association was the only strong one that existed between variables in any of the core subjects at School C. Further, this association was also statistically significant. As this correlation shows a strong ascending linear form, where the points stay very close to the line of best fit, it suggests that the strength of the relationship being shown in this correlation is reliable; See Figure 11. This correlation suggests that increases in Teacher Absent Days for Social Studies at School C, is associated with increases in Total Social Studies Averages at School C.

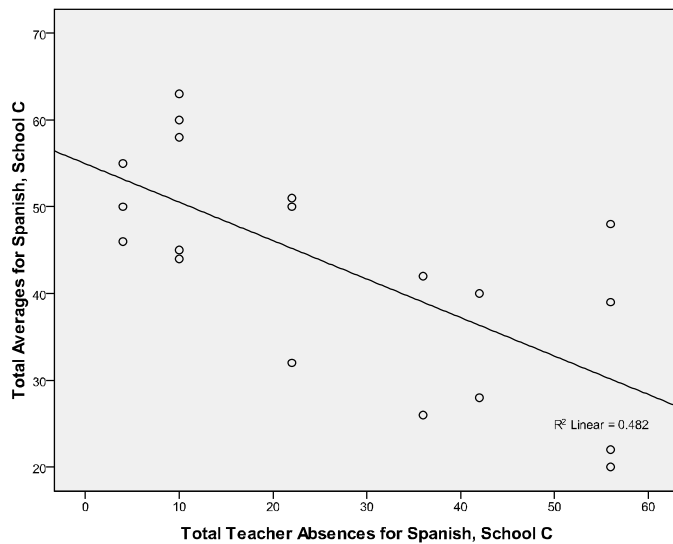


Figure 12. Scatter plot for Spanish, School C.

Results for the correlation analysis between Absent Days for Spanish Teachers at School C and Total Spanish Averages for School C suggests that the relationship between the two variables was a moderate, negative one. These results were statistically significant, $r(17) = -.69$, $p < .05$, two-tailed. The scatter plot in Figure 12 summarizes these results. The figure shows that this relationship is a linear one although there is some spread along the line of best fit. This result suggests that the more Spanish Teachers at School C are absent it is associated with lower Spanish Averages at School C.

Research Question 4

Regression Analysis

To answer Research Question 4 and find out if ‘the relationship between teacher absenteeism and student academic achievement differed between teachers with diverse characteristics at three Barbadian Secondary Schools’, multiple regression analyses were conducted. Summaries of the Descriptive Statistics and Regression Coefficient Statistics for the regression analyses in the core subjects are shown in Appendix Q for School A, and Appendix R for School C.

“A Multiple linear regression analysis is carried out to predict the values of a dependent variable, Y, given a set of p explanatory variables” (Tranmer & Elliot, 2008). Therefore to determine whether student averages in the core subjects could be predicted based on the diverse characteristics of their teachers which included Teacher Absences; Personal/Circumstantial Factors; Job Satisfaction and Motivation; Staff Relations; Teacher Experience and Policy and Procedural Factors, Multiple Regression analyses were performed.

It was found that the predictor variable *Staff Relations* had high correlation ($p > 0.8$) with *Personal/ Circumstantial Factors*; *Job Satisfaction and Motivation*; and *Policy and Procedural Factors* and was therefore removed from the regression analyses as a predictor variable so as to avoid multicollinearity. The VIF values for the regressions were either below 3 or 4, which was below all the recommended cut-off points of 5, 7 or 10, with the Tolerance levels at acceptable levels for English, Integrated Science, Math, Social Studies and Spanish, which were higher than the recommended minimum of .1. The Durbin-Watson statistic level was acceptable for all analyses as it was either above 2 or slightly under it, with none being close to 0, indicating that there was very little autocorrelation in the residuals of the various regression analyses. Scatter

plots were also created to illustrate the regression coefficients of variable X (predictor variables) and variable Y (Student Averages) for each subject as shown in the Appendices Q and R. In each of the following regression analyses, Personal Circumstantial Factors; Job Satisfaction and Motivation; Policy and Procedural Factors; Teacher Experience and Teacher Absences for each of the core subjects were used as predictor variables. Total averages for each of the core subjects were seen as the dependent variables.

School A

English. Teacher absences for English at School A, significantly predicted Total English averages. The five predictor model was a significant fit to the data, explaining 59% of the variance in Total English Averages, $F(5, 18) = 5.241, p < .005$. Teacher Absences for English at School A ($\beta = .77, p < .001$) had the strongest relationship with the dependent variable and it was a positive as well as a statistically significant predictor of Total English Averages at School A. Job Satisfaction and Motivation was also a strong negative predictor of Total English Averages at School A ($\beta = -.66, p < .05$) as was Personal/ Circumstantial Factors $\beta = -.51, p < .05$. The Beta of Personal/ Circumstantial Factors was $-.509$. Therefore, after controlling for Job Satisfaction and Motivation and Total Absences for English Teachers at School A, and the other variables in the model, a one Standard Deviation (SD) increase in Personal/ Circumstantial Factors is suggested to lead to a $-.51$ SD decrease in Total English averages at School A. Also, the Beta for Job Satisfaction and Motivation is $-.657$, therefore, controlling for Total Absences for English Teachers at School A, Personal/ Circumstantial Factors, and the other predictors in the model, a one SD increase in Job Satisfaction and Motivation is suggested to lead to a $-.66$ SD decrease in

Total English Averages at School A. Conversely, the Beta for Total Absences for English Teachers is .766. This means that after controlling for Personal/ Circumstantial Factors, and Job Satisfaction and Motivation, and the other variables in the model, a one SD increase in Total Teacher Absences for English at School A is suggested to result in a .77 SD increase in Total English Averages at School A.

Integrated science. The results of the regression analysis for Integrated Science suggested that the five predictor model was also significant in explaining 67% of the variance in Total Integrated Science Averages at School A: $F(5,14) = 5.728, p < .005$. The regression equation: Total Integrated Science Averages = $97.344 + 7.509$ (Job Satisfaction and Motivation) + 4.698 (Policy and Procedural Factors) - 2.020 (Personal/ Circumstantial Factors) - $.717$ (Teacher Absences for Integrated Science) - 1.844 (Teacher Experience) (See Appendix Q).

Teacher Absences for Integrated Science was found to have the strongest association with the dependent variable, and was also statistically significant ($\beta = -.80, p < .005$). Job Satisfaction and Motivation was the only other variable found to be statistically significant ($\beta = -.45, p < .05$). With the Beta for Teacher Absences for Integrated Science being $-.797$, after controlling for Job Satisfaction and Motivation, a one SD increase in Teacher Absences for Integrated Science is suggested to lead to a predicted $-.80$ SD decrease in Total Integrated Science Averages at School A. On the contrary, with the Beta for Job Satisfaction and Motivation being $.450$, after controlling for Total Teacher Absences at School A, a one SD increase in Job Satisfaction and Motivation is suggested to lead to a predicted $.45$ SD increase in Total Integrated Science Averages at School A.

Math. The regression equation used was: Total Math Averages = $49.366 - 4.117$ (Policy and Procedural Factors) - $.817$ (Teacher Absences for Math, School A) + 7.492 (Personal/ Circumstantial Factors) + 4.215 (Job Satisfaction and Motivation) + $.113$ (Teacher Experience). It showed that the five predictors only explained 58% percent of the variance in Total Math Averages, and were significant predictors of Total Math Averages, $F(5, 19) = 5.252, p < .003$. This meant that the model was a good fit to the data. Personal/ Circumstantial Factors was the strongest of the predictor variables suggesting that it had the greatest relationship with the dependent variable ($\beta = .817, p < .005$). Job Satisfaction and Motivation ($\beta = .551, p < .05$), Policy and Procedural Factors ($\beta = -.542, p < .05$) and Teacher Absences for Math at School A ($\beta = -.697, p < .001$) were also statistically significant predictors of Total Math Averages at School A.

After controlling for the other four predictors in the regression model, a one SD increase in Personal/ Circumstantial Factors is proposed to result in a predicted .82 SD increase in Total Math Averages. Likewise, after controlling for the other predictor variables in the model, a one SD increase in Job satisfaction and Motivation is anticipated to lead to a .55 SD increase in Total Math Averages at School A. On the other hand, controlling for the other variables in the model, a one SD increase in Policy and Procedural Factors is suggested to result in a -.54 SD decrease in Total Math Averages. As well, a one SD increase in Teacher Absences for Math at School A would result in a predicted -.79 SD decrease in Total Math Averages.

Social studies. The regression equation for Social Studies at School A was also significant. Predicted Total Social Studies Averages = $32.725 - 1.901$ (Teacher Absences for Social Studies at School A) + 5.991 (Personal/ Circumstantial Factors) + 4.292 (Job Satisfaction and Motivation) + $.678$ (Policy and Procedural Factors) + 1.347 (Teacher Experience). The five predictor model accounted for 58% of the variance in Total Social Studies Averages at School A:

$F(5, 18) = 4.894, p \leq .005$. Teacher Absence for Social Studies was the strongest of the predictor variables, having the closest and only negative relationship with the dependent variable. This relationship was also statistically significant ($\beta = -.84, p < .001$). Statistically significant relationships were also found between Personal/Circumstantial Factors ($\beta = .67, p < .05$), Job Satisfaction and Motivation ($\beta = .57, p < .05$) and the dependent variable. Policy and Procedural Factors, and Teacher Experience did not significantly contribute to the model. After controlling for the other predictors in the regression model, a one SD increase in Teacher Absences for Social Studies is predicted to result in a $-.84$ SD decrease in Total Social Studies Averages. On the other hand, after controlling for the other predictor variables in the model, every additional SD increase in the Personal/ Circumstantial Factors which contribute to teachers being absent from school is suggested to result in a predicted $.67$ SD increase in Total Social Studies Averages, and for every additional SD increase in Job Satisfaction and Motivation is proposed to lead to a $.57$ SD increase in Total Social Studies Averages at School A.

Spanish. The F-test statistic for the regression model indicated that together the five predictor model was statistically significant in their prediction of Spanish Averages, explaining 56% of the variance in Total Spanish Averages, $F(5,14) = 1.491, p = .254$. The regression equation was $67.905 - .4.210$ (Policy and Procedural Factors) $-.301$ (Teacher Experience) -1.197 (Teacher Absences for Spanish at School A) $+ 1.375$ (Job Satisfaction and Motivation) $+ 1.798$ (Personal/ Circumstantial Factors). Teacher Absences for Spanish was the only predictor which significantly explained the dependent variable ($\beta = -.63, p < .05$).

After controlling for the other four predictor variables in the model, every SD increase of Teacher Absence for Spanish at School A is suggested to lead to a $-.63$ SD decrease in Total Spanish Averages at School A.

School C

English. The statistically significant five predictor model was able to account for 67% of the variance in Total English Averages at School C. The predictor making the greatest contribution to the model was Personal/ Circumstantial Factors ($\beta = -.84$, $p < .005$), then Job Satisfaction and Motivation ($\beta = -.79$, $p < .005$). These were found to be the only significant predictors in the model with strong Beta weights. Only Teacher Experience was found to have a positive effect on the dependent variable (See Appendix R). The other two non-significant predictors were negatively associated with the dependent variable. This suggests that when the other four non-significant predictors are held constant, a one SD increase in Personal/ Circumstantial Factors is proposed to lead to a $-.84$ SD decrease in Total English Averages at School C. Also, all other variables being held constant, a one SD increase in Job Satisfaction and Motivation is also proposed to lead to a $-.79$ SD decrease in English Averages at School C.

Integrated science. In this analysis the F-test statistic for the regression model indicated that together the five predictor variables were statistically significant in their prediction of Total Integrated Science Averages at School C: $F(5, 18) = 5.918$, $p < .005$). The model explained 62% of the variance in Total Integrated Science Averages at School C. The regression equation was $59.051 - 2.482$ (Policy and Procedural Factors) $-.620$ (Teacher Experience) $-.656$ (Teacher Absences for Integrated Science) $+8.199$ (Personal/ Circumstantial Factors) $+2.804$ (Job Satisfaction and Motivation). Teacher Absences for Integrated Science was the predictor with the strongest Beta weight and it was one of two predictors that were significant in predicting the dependent variable ($\beta = -.82$, $p < .001$). Personal/Circumstantial Factors also had a strong Beta weight and was the only other significant predictor of Total Integrated Science Averages at

School C. Therefore, holding all other variables in the model constant, a one SD increase in Teacher Absences at School C is suggested to lead to a -.82 SD decrease in Total Integrated Science Averages at School C. Conversely, holding all other variables in the model constant, a one SD increase in Personal/ Circumstantial Factors is also proposed to lead to a .68 SD increase in Total Integrated Science Averages at School C.

Math. In this regression analysis for Math, the five predictors were significant in predicting Total Math Averages at School C: ($F(5, 18) = 5.968, p < .05$). The model was also able to explain 62% of the variance in Total Math Averages at School C. The regression equation was $30.695 - 2.705 (\text{Personal/ Circumstantial Factors}) - .743 (\text{Policy and Procedural Factors}) - .220 (\text{Teacher Absences for Math at School C}) + 2.266 (\text{Job Satisfaction and Motivation}) + .486 (\text{Teacher Experience})$. It was revealed that Teacher Absences for Math at School C was the strongest of the predictor variables and the only one which was statistically significant ($\beta = -.51, p < .05$). Consequently, holding the other predictors in the model constant, a one SD increase in Teacher Absences at School C is suggested to result in a -.51SD decrease in Total Math Averages at School C.

Social studies. In the following regression for Social Studies, it was found that the five predictor variables were significant in predicting Total Social Studies Averages at School C: ($F(5, 18) = 4.961, p < .001$). Together the predictors were able to explain 77% of the variance in Total Social Studies Averages. It was found that Teacher Absences for Social Studies at School C was the strongest of the predictor variables ($\beta = .65, p < .001$). Job Satisfaction and Motivation was also found to be significant and was the second strongest variable in the model ($\beta = .46, p$

<.05), and they both had a positive influence on the outcome variable. Therefore, holding all other variables in the model constant, a one SD increase in Teacher Absence for Social Studies at School C is proposed to lead to a .65 SD increase in Total Social Studies Averages. Likewise, holding all other variables constant, a one SD increase in Job Satisfaction and Motivation is suggested to result in a .46 SD increase in Total Social Studies Averages.

Spanish. In the final regression analysis, the model was found to be statistically significant, explaining 64% of the variance in Total Spanish Averages at School C: ($F(5, 13) = 4.574, p < .05$). The equation for the regression was: $65.163 - 5.830$ (Personal/ Circumstantial Factors) $- .358$ (Teacher Experience) $- .419$ (Teacher Absences for Spanish at School C) $+ 3.256$ (Job Satisfaction and Motivation) $+ 4.565$ (Policy and Procedural Factors). Teacher Absences for Spanish at school C was found to be the strongest predictor variable and the only statistically significant one ($\beta = -.66, p < .005$). This is suggesting that after controlling for the other four predictors in the model, a one SD increase in Teacher Absences for Spanish at School C is suggested to lead to a -.66 SD decrease in Total Spanish Averages at School C.

The results indicate that there is not always a significant relationship at the .05 level between student achievement and teacher absenteeism in several of the subject areas. What may have contributed to the varying results will be discussed in the following chapter.

Chapter 5

Discussion

Previous research have identified divergent results of student outcomes based on the effects of teacher absenteeism on student achievement. The results of this study reflect some of these outcomes. Therefore, understanding those factors which influence teacher absenteeism will be necessary to those in charge of education, as it is these factors which determine how often a teacher will be present in the classroom to teach.

The topic of teacher absenteeism is an important issue which has attracted the attention of many researchers (Alcazar et al., 2006; Chaudhury et al., 2006; Clotfelter et al., 2007; Ivatts, 2010; Jacobs & Kritsonis, 2007; Miller et al., 2007; Pitkoff, 1993; Whitehead, 2009; Zuckerbrod, 2008), as in many developed and developing countries, schools are faced with the challenge of providing a sound education for their children. In an effort to determine the effects of teacher absenteeism on student achievement in the core subjects at three Barbadian Secondary Schools, this cross-sectional, quantitative study was conducted.

This chapter discusses the findings of the study within the theoretical framework of the literature review. This study is based on the following four research questions which guided the study: 1a) which reasons do teachers give that contribute most to their being absent from work at three Barbadian Secondary Schools? 1b) Are there significant differences in the reasons for absenteeism based on specific teacher characteristics? 2) What are students' perceptions of teachers' absenteeism at three Barbadian Secondary Schools? 3) Do teacher absences impact upon student achievement in the Core subjects at three Barbadian Secondary Schools? 4) Does

the relationship between teacher absenteeism and student achievement differ between teachers with diverse characteristics at three Barbadian Secondary Schools?

This study utilizes three factors of teacher level; contextual level and school level variables as proposed by Santiago et al. (2010) to form a framework to guide the study. This framework sees teacher level variables as (the personal reasons that might cause the teacher to be absent, the level of job satisfaction and motivation of the teacher, and the experience level of the teacher); the school level variables as (the policies of the school and the Ministry of Education as they relate to teacher absenteeism, Staff relations, and the leadership style of the Principal); and the contextual level variables as (the school culture and the school within the community) as being the most important factors in determining teacher absenteeism at the three Barbadian Secondary Schools.

The level of absences at the three Barbadian Secondary schools in the research was high, with one teacher taking as many as fifty-six days away from work in one school calendar year. This finding is significant as in the Barbadian school system, appointed teachers are only allowed twenty-one sick days in a given year, and un-appointed teachers fourteen days sick leave. It is surprising then that at any school, a teacher taking fifty-six days away from the classroom would go unnoticed, as it should be obvious to the school Principal that this lack of teaching would impact on the achievement of students, or on teachers who would be asked to do the substitution. Therefore, why was this teacher allowed to have this many absent days without school or Ministry intervention?

This high level of teacher absence in the Barbadian schools was comparable to that found in studies conducted by Abadzi (2007), Chaudhury et al. (2006), and Rogers and Vegas (2009) in

other developing countries such as Peru, Pernambuco and India, where it was also found that teacher absence was at very high levels. These amounts surpassed the average nine to ten days which were recorded in other international studies where Ehrenberg et al. (1991) and Miller and Murnane (2006) found that the average personal days taken by a teacher within a year to be nine days. It seems however, that in the U.S, a developed country, teacher absence was still high, even though to a lesser extent, as according to Joseph et al. (2014) in a study done by the National Council on Teacher Quality in the U.S.A during the period 2012 – 2013, there were teachers who had been absent for 18 days or more, and were categorized as being constantly absent. Although these absences were considered high, these absence rates were only a third of that experienced at the Barbadian Secondary schools. Browne and Arnell (2012) previously report conflicting evidence, suggesting that the rates were even higher with teacher absences in the U.S being equivalent to more than a year of all children's elementary education being given by a substitute. Such statements make it confusing as to the actual rates of absences being reported in the U.S. This might be a result of true rates not being reported when substitutes fill in for these absent teachers, as teaching is still taking place.

Findings at the three Barbadian Secondary schools show that the Heads of Departments and Senior Teachers did not stay away from school due to emergencies as indicated by the questionnaire responses. However, the experienced teachers teaching for ten years or more as well as those teaching for two years or more but less than ten years were often absent due to emergencies. The reason for these emergencies given by one of the teachers was that because she was a woman and married she usually had many emergencies. These excuses for absences, whether legitimate or not, will find those teachers who are experiencing other problems at the school likely to be using any excuse to be away from school, as according to Bruno 2002, some

teachers see it as their entitlement to be absent. It will be up to those in charge of these institutions to convince teachers to find ways of dealing with problems that would not make them have to be absent from school for an entire day, as this means that the students are not being taught on those days. The excuse given by the teacher that “I can’t get there if I can’t get a ride” suggests that this teacher is not serious about teaching. A teacher who cares about the welfare of their students would find a way to get to work. There will be other teachers who might not own a car of their own but get to school with another teacher who might be passing the route they take to school, or they take the bus to ensure that they get there. The locations of all of the schools in the research are within well serviced bus routes and so such an excuse show that this teacher might be one of the teachers whom the students referred to “that don’t want to teach”. These similar reasons confirm those found by Steers and Rhodes (1978), and Scott and Wimbush (1991) who found that teachers cited reasons of transportation and distance to work as reasons for their absences. It was only those teachers teaching for two years but less than ten years who had issues with transportation. None of the other teachers experienced problems.

Where teachers gave an excuse of going on school tours with their students for an exam requirement, such an excuse may be valid. It is a requirement of some of the external examinations that students make these visits once or twice before the examination. This not only is beneficial to the student, but also helps in the development of a fairly new teacher who can be guided by a more experienced one. Also, when teachers take the time to attend workshops, this will also be of a professional benefit to them as individuals. According to Darling-Hammond (2000) the lack of involvement of the new teachers in staff development training might be one of the reasons these new teachers are having difficulty experiences at the schools. Studies based on teacher experience and student achievement sometimes found that there is a significant and

linear relationship between teacher effectiveness and their years of experience, as the trained teacher was better able to develop students' learning (Darling-Hammond, 2000). Therefore, if they are not attending the workshops, those who do attend should be given appropriate opportunities where they can share what they have learnt with others, as this is what is expected by those conducting the workshops. Also, where new teachers lack the knowledge about organizing school tours, the more senior teachers should be encouraged to draw the new teachers into the planning of such activities and even take them along to assist with the supervision of students.

Teachers at the schools generally believe that they are not given enough support by the Principal. What is surprising is that those who are mostly complaining are the most senior members of staff in administrative positions. It would be expected that these teachers would have the fullest support of the Principals if they are to be successful in fulfilling their duties as suggested by (Owen, 2010; & Whitehead, 2009). This finding is not productive to school improvement, and an intervention is needed by the Ministry of Education at these schools if improvement in relationships is to be seen.

The teachers teaching for two years and over, but less than ten years, were absenting themselves from school as they were now realizing that these are the conditions that they will have to work with on a daily basis. It may be that some of them cannot cope and rather than resign from the job, they stay away from the classroom as much as possible. Such is also the finding of Spencer (1998) who suggests that teachers in the Secondary schools who were thought to be less effective were the ones most often absent. What might also be contributing to the disillusionment of these teachers is that they might have grand ideas about what they want to teach but the students are just not interested in what they have to say. This can leave these

teachers feeling helpless, and contribute to a lack of motivation (Bruno, 2002). As teachers spend more years in the job, they gain knowledge from their experiences. If the experienced teachers are going to several union meetings, it means that there are issues that need to be addressed at the schools. Even though some of these absent days taken by the Barbadian teachers may be due to them attending Ministry organised workshops, or for any other legitimate cause, these were still days where the teacher was not engaging the class in learning activities. One might argue that by attending workshops this would make the teacher more equipped to teach the classes through enhancement of teaching methods, but during this time of absence how is the school ensuring that students are still being given instruction when they are supervised by a substitute? Especially in Barbados where the substitute usually have limited knowledge of the subject area for the class they are supervising, and use the time to correct books for the children in their scheduled classes.

As teachers work during the regular office hours for most businesses, they had to schedule their appointments during teaching time. This was the case with the older teachers who might have to make regular doctor visits unlike the youthful teachers who might not have as many ailments. As Heads of Departments seldom made these appointments, this suggests that they either made their appointments on Saturdays or after school hours. Only a few teachers were absent to attend funerals and the older and more experienced ones were the ones who were involved in accidents.

The main reasons that teachers at the three Barbadian schools gave which might cause them to stay away from school included illness, emergencies, school tours/ workshops, lack of support, disillusionment, union meetings, transportation, personal business, accidents and funerals. These reasons advanced confirm the findings of Bruno (2002) who found that in the

U.S, teachers' main reasons for absence included illness, professional development, personal reasons and family bereavement, while in England, one of the reasons found by Bowers (2001) was illness. Abadzi (2007) found in his research that reasons given by teachers for their absence included going on strikes, official leave, absence for legal duties, returning home for the holiday period, attending educational workshops, teacher training, and personal reasons, going to administration centres, casual leave, and the appalling physical conditions at the schools. Similarly, Alcazar et al. (2006) found that in Peru, certified sick leave, sickness and official duty, and absence for personal reasons were advanced by teachers, while Al-Hassan (2009) notes that teachers attending funerals caused them to be absent for a whole day if the teacher became drunk whilst in attendance. Heavy workloads and stress were reasons found by (Carter 2010; Grant 2010; Haberman, 2004 & Naylor, 2001), while weak management of the school and weak labour relations by management were found by Miller et al. (2007). The distance to work, the gender of the teacher, the requirements of the job, and the level of job satisfaction by the teacher (Scott & Wimbush, 1991) along with health issues, family responsibilities, and problems with transportation (Steers & Rhodes, 1978) were also reasons for teacher absence.

When comparing the reasons for absences from the three schools with that of previous research, it is clear that regardless of the geographical location of teachers, they share similar reasons for their absences. These reasons are globally affecting teachers and show from the literature to have been doing so for some time. Why then have these issues not been addressed to date? Is it because there is doubt as to whether teachers should be afforded the same treatment as other professionals? This is clearly an issue which needs to be addressed if teachers are to come to school more often.

Staff relations were found to have impacted negatively on the newer teachers at the Barbadian schools. Of great concern is that fairly new teachers feel disillusioned after only teaching for two years. These teachers felt that there was a lack of support at the schools, and this was mostly because they did not feel that they were receiving the necessary support from the principal when they needed him nor from the other members of staff. Therefore, a lack of collegiality and unity amongst staff might also have been seen as a lack of support. Derycke et al. (2003) assert that unless there is a sociable work environment, people will tend to become absent. Such support would have been necessary in terms of dealing with the deviant behaviours of students and classroom management since they were still fairly new to teaching. A similar conclusion was reached by Owen (2010) and Whitehead (2009) whose research found that where teachers were stressed, due to the behaviour of students and the teachers' inability to cope, it reduced morale considerably, where there was little support being given by the Principal. This is in line with previous studies where Leithwood (2006) notes that where the principal was friendly, supportive, listened to the suggestions of staff and treated them in a collegial manner, this improved teacher commitment. As well, if the salary being satisfactory along with the school climate, the workload not being heavy and provision made for professional development, it had a positive significant effect on teacher attendance (Santiago et al., 2010). Along with this, teachers themselves recommended that new teachers who needed help should be given assistance when needed (Abadzi, 2007).

This behaviour is in keeping with similar findings advanced by Al-Hassan (2009), Bowers (2001) and Khan (2006) who posit that teachers will be absent due to the lack of required resources, as well as the demands of the job. Several studies (Keller, 2008; Leithwood, 2006; & Owen, 2010) share similar findings which are contrary to what was found at the

Barbadian schools. They purport that teachers tend to become absent when leadership and support is lacking from the principal. Surprisingly none of the New Teachers saw this as a concern, and this suggest that there was much support to the new teachers by the Principals. Most of the teachers teaching for longer periods felt that the Principal was not supportive of their efforts. As new teachers will spend more time with the general body of staff, such feelings of inadequacy should have been anticipated by the Principals of these schools before hand and mentorship programmes could have been put in place when these teachers were first assigned at these schools. This could have been done within departments where they would have been paired with a more experienced staff member. This would have helped teachers to feel less overwhelmed and a friendlier work environment would exist. Principals therefore need to be aware that it is their responsibility to promote an environment at work which would encourage staff to be present more often. Further, they should encourage good staff relations at the school and be at the forefront of encouraging and offering support to all staff. This finding is in keeping with previous research done in developing countries which show that the work environment of the teacher is an important issue (Santiago et al., 2010).

It is argued that the norms, goals and values of the work place, not having a school culture, and employee attitudes are significant contributors of teacher absenteeism (Jacobs & Kritsonis, 2007; Pitts, 2010; Steers & Rhodes, 1978). Additionally, if the school was in a rural location and its buildings were poorly maintained, this contributed to a lack of teacher motivation and eventual teacher absenteeism, more than in the urban ones (Bruno, 2002; Chaudhury et al., 2006; Clotfelter et al., 2007), and where the conditions were also unfavourable this contributed to stress and promoted absenteeism (De Boer et al., 2002). Alcazar et al. (2006) also found that in the high poverty districts of Peru, teachers were absent twice as much as other

teachers in the other more affluent areas, mainly due to the quality of the infrastructure at the school, and transportation difficulties. Al-Hassan (2009) found that in Northern Ghana the infrastructure of the school accounted for 26% of the absences. On the contrary, where schools were located in communities, teachers were often present due to familiarity with parents (Harris-Van Keuren et al., 2009). Where teachers lived near to the school it was found that they came to work more often, as was seen in the six countries of Ecuador, Bangladesh, India, Indonesia, Peru and Uganda (Chaudhury et al., 2006). Comparable findings were shared by Bruno (2002) who concluded that in across all schools in the U.S, there was a relationship between the geographical location of a school and teacher absenteeism, as they came to school more when they lived near the school. Such findings were also found by Alcazar et al. (2006) in Peru. In the three Barbadian schools, being located in a community did not make a difference as to whether the teachers would be present or not, as teachers from the communities were more often absent than others.

School size has also been advanced as one of the contributing factors for teacher absences. Alcazar et al. (2006) stress that small schools encourage teachers to know their students and witness their progression and so they come to school, unlike in the larger ones. Where the school is small, teachers would easily know their students and want to see them progress and would therefore come to school. However, where the school is large, the teacher is not as close to the students and would be absent more often (Alcazar et al., 2006). Where teachers are often absent it leads to bad behaviour in students, damages staff collegiality and money has to be spent on substitute teachers (Scott et al., 2007), while having to constantly fill in for absent teachers affects school culture and staff morale (Owen, 2010). Some teachers at the three Barbadian schools openly stated that the conditions of the school plant were “deplorable”

and it made them not want to be present. Further some felt that because the numbers were too large in the classes it encouraged bad behaviour. Miller et al. (2007) report similar findings that as the size of the class increased, those teaching for a moderate period of time were absent more than the very experienced and new teachers. Evidence from Gillies and Quijada (2008) also show that adequate student-teacher ratios in class, improves the performance of the teacher and promotes job satisfaction.

Teachers at the three Barbadian schools might have taken these high levels of absences because they knew that they would not be penalized for it. It is useless to have policies in place which states that pay will be deducted if a teacher takes more than the stipulated sick days and then they are granted an extension of sick days after they have surpassed the amount. This is counterproductive and even encourages teachers to be absent. This is supported by Banerjee et al. (2012) who posit that teachers usually took many absent days where they knew that sanctions rarely occurred as there was little supervision by those in authority. Such appears to have been the case at these Barbadian schools. To help curb these amounts of absences, Ehrenberg et al. (1989) propose that Ministries should specify the amount of days that a teacher could use yearly to attend conferences and workshops to reduce absent days. Further, where the Ministry of Education in Barbados know of persistent teacher absenteeism at schools, they should do a school inspection at these locations to deal with the problem directly (Rogers & Vegas, 2009). In Barbados, a greater focus is needed at the level of government and the Ministry of Education on the impact of teacher absenteeism on student achievement. It is not enough to record absenteeism data on teachers and not implement corrective measures to combat the problem. Generally, much blame has been placed on the principals as being responsible for the absences of teachers at the schools. While research suggests that they are partly responsible (Owen, 2010),

much of this responsibility should be levelled directly at the school Districts and the Ministry of Education officials who have the ultimate power to remove or sanction these individuals but have allowed the situation to continue. However, the teacher, whom the student interacts with most, is essential in the educational development of a student. Therefore it is of utmost importance that teachers maximize their time instructing in the classroom and do not absent themselves from school.

Students were asked to suggest reasons which they believe might be contributing to teacher absenteeism at the schools to answer research question 2. Five categories were established and these were, Not wanting to teach; Personal Appointments; Student Behaviour; Illness; and Meetings. The category of not wanting to teach saw the most responses by students. Most students believed that their teachers did not want to teach them. This would suggest that the attitude of the teachers might be visibly displayed to the students when they came to the classes. Surprisingly, more females than males believed that the teachers did not want to teach them, even though they had been showing compassion for their teachers' absences previously. Perhaps, students on the whole are tired of the teachers habitually missing their class as they recognise that they are not learning and falling behind in their education.

The students, especially the males, believed that when their teachers were absent from the classroom it was because they were engaged in their own personal business or on appointments. This might be because the students saw the teachers leaving the premises or noticed that their car was not in the car park and so was not at school. Where the teacher might have been seen on the compound even though they did not come to the class, it made a junior female student indicate that the teacher had probably forgotten to come to the class. Mostly the females in the classes believed their teachers to be ill when they said they were absent. This

might be because females are aware that they themselves are sometimes ill and expect their teachers to believe them when they say that they are. Therefore they see no reason not to believe their teachers. The males however, are doubtful that their teachers are sick.

Student behaviour saw a strong response from the males. The male students knew, based on their level of response to this question, that they were mostly responsible for teachers absenting themselves from the class. The females however, knew that they might have played a small part in keeping the teacher away from the classroom, but still saw themselves as not being the main persons responsible for their teachers' absences. One male student was honest in declaring that the teachers are fed up with them where he stated "some teachers fed up with the children"

Only a few of the students reported that the teachers were really attending meetings when they were absent from class. This might be because teachers had already told the students that they were not coming to class or this might be a class that is usually missed by a particular teacher. Over time, students tend to know which teachers will show up for class and those who will be habitually absent. It was generally found in the three Barbadian Secondary schools that the teachers who had ten years and over experience along with those teaching for two years or more but less than ten years, were absent most. Where this pattern of absence would be expected from fairly new teachers, those with several years of experience would be expected to be more committed to the job.

In order, to answer Research question 3 and find out whether teacher absences impacted upon student achievement in the core subjects, correlation analyses were conducted. These were done by year group, and then by subject within school, to see if there would be any difference in findings. Within year group at School A, while teacher absence had no significant relationship

with any of the core subjects in the first form, there was a positive and moderate statistically significant relationship between Policy and Procedural Factors and student achievement in first form English at School A. Then in the second form, teacher absence had a moderate, significant negative association with second form Spanish averages. No other significant associations were found with English, Math, Integrated Science or Social Studies. This finding is contrary to what would be expected. This is suggesting that these Spanish teachers of the second form might not be leaving work for their students to complete in their absence, or the students might not be doing extra homework on their own to make up for lost teaching time. As there is a strong emphasis on first form Spanish in Barbadian schools, the work might be similar to what is being taught in the first year and so students would still be expected to cope with the subject material whether their teacher is present or not. When the teachers are there for classes they might not be that good in the delivery of the subject material and so the students may not have grasped the concepts and so are unable to continue working in their absence. Personal Circumstantial Factors was also found to have a strong negative effect on second form English averages, while Job Satisfaction and Motivation had a moderate positive relationship with second form English averages. This is in keeping with the finding of Al-Hassan (2009) who advances that Secondary School English teachers in Indonesia were the most often absent as they usually did not have the required syllabus to teach the classes and this made them less confident. Therefore, if teachers have personal issues and cannot teach their second form English classes effectively, it will have a negative effect on their grades, however, if the teacher teaching the class is satisfied with the job and motivated to teach it will have a positive impact on the second form students.

Correlations between Teacher Absent Days and Total Averages in each of the core subject at School A showed mixed results. There was a moderate, negative linear relationship

between Teacher Absent Days and Total Averages in Integrated Science, Math, Social Studies and Spanish. All of these relationships were statistically significant. These findings support previous research conducted by (Bayard, 2003; Brown & Arnell, 2012; Bruno, 2002; Obeng-Denteh et al., 2011; Scott et al., 2007; Speas, 2010) which found an association between teacher absence and lower student averages. The correlation results at school A suggest that the more the Integrated Science, Math, Social Studies and Spanish teachers stayed home, the lower the grades their students would receive. For English however, this positive significant linear relationship between teacher absences and student grades was very surprising as it suggested that the more the teacher stayed home the better the grades their students would receive. In the present study, whether the teacher was present or not did not seem to influence student performance as they performed better because of their absences. This finding was not expected as one would anticipate students to have lower levels of achievement if they are not being taught regularly. Students perhaps were interested in getting ahead and worked on their own when the teacher was absent, or did meaningful work with the substitute teacher. Moreover, Students would be expected to do well in English as this is a subject taught indirectly in all of the other subject areas, as class instruction is delivered in English. Therefore, if a student misses the designated English class, this is made up for in the other classes where concepts will always be reinforced and this would obviously give students an advantage in this subject. Further, English is the native language in Barbados and is spoken every day by the student. This will again add to the learning of vocabulary by the student daily both in and out of the classroom. Robinson (2008) also found similar positive statistical significant relationships between student achievement and teacher absence in State Assessments in English Language Arts in grades five

and seven. Based on these results, a pertinent question is; since English language is so easily understood by students, do they need the constant instruction of a teacher to succeed?

At School C, correlations by year group found that teacher absences had a significant positive effect on the grades first formers received in Social Studies at School C. This finding is not what would be expected, as one might assume that the teacher not being at the class would adversely affect student grades. One explanation for this occurrence is that Social studies is a subject which is taught in Primary school and most of the work done in the first form at Secondary school is a recap of that already learnt information. Therefore, if the teacher is not present for class students could either read the books themselves or discuss the topics with each other, or they could rely on memory to pass the exams.

In the second form, Job Satisfaction and Motivation however had a significant negative impact, on the Integrated Science averages received by students of the third form. This would be expected because the teacher who is not satisfied with the job or motivated to teach will not do a good job at teaching the class. They will be unprepared for class and be unable to guide their students appropriately and this would eventually encourage them to stay home. Therefore it will be important for the school Principal to motivate teachers so that they would become committed to the school and teach their classes and avoid absenteeism (Harris, 2009; Leithwood et al., 1999, 2008; Ross & Berger, 2009).

Likewise, there was a positive significant relationship between teacher absences for fourth form English and fourth form English exam averages at School C. This was also an unusual finding. A possible reason for the students doing well in the absence of their teachers is that they might have been going to lessons to make sure that they kept up with the syllabus, and as English is the main language being spoken on a daily basis, this would have been beneficial to

them. Also, students might have decided to do some work on their own and so achieved more. Also, a moderate, positive statistically significant relationship was found between Personal Circumstantial Factors and fourth form Spanish averages. This meant that even with the Personal Circumstances that caused fourth form Spanish teachers to be absent, students still continued to work on their own to be successful in their exams. As these students are older, they might have worked in groups to cover what they had missed in regular classes. The Policy and Procedural Factors was also found to have a negative statistically significant relationship with fourth form English exam scores. This meant that the policies and procedures which exist at the school were causing the teachers to stay home more. Perhaps these policies were policies set for the fourth form and that is why it only affected this year group. Therefore, it will be necessary for the school to reconsider some of the policies which they have in place to make teachers feel more comfortable at the schools.

Furthermore, at School C, there was a moderate negative relationship between Staff Relations and fourth form Spanish averages, and a negative significant relationship between Job Satisfaction and Motivation and fourth form Spanish grades. These findings show that where teachers are not in collegial relationships with each other, it affects their teaching and it impacts on student achievement. Derycke et al. (2003) stress that unless the work environment is sociable, persons will tend to become absent. If these same teachers are not satisfied with the job or motivated to do it, they will not put in the effort to teach the Spanish and the students will be left on their own to teach themselves.

To see if results differed when the entire school in each core subject was considered together in the correlation, additional correlations were conducted. When the whole school by subject was considered, the results were also mixed. There was a moderate, negative linear

relationship between Teacher Absent Days for English, Integrated Science, Math, and Spanish. These associations were also significant and suggested that increases in teacher absences at School C would be correlated to lower averages in English, Integrated Science, Math, and Spanish due to the lack of teaching. These findings support previous research conducted by (Bayard, 2003; Bruno, 2002; Scott et al., 2007; & Speas, 2010) who found a negative association between achievement in Mathematics and teacher absences in two out of six grades. As well, Obeng-Denteh et al. (2011) where regression analyses showed that teacher absenteeism impacted negatively on student achievement in the Basic Education Certificate Examinations for 2008 – 2009 in Nigeria, and Brown and Arnell (2012), who also found that teacher absence was related to lower student averages.

At School C however, teacher absence is positively associated with first form Social Studies averages, and this association is significant when correlations were done by subject within year group.

Correlations for Social Studies showed that a strong, positive, linear relationship existed between Teacher Absent Days and Social Studies Averages. This relationship was also statistically significant. This relationship was the only strong association found between any of the correlations within the schools. This finding suggests that an increase in Teacher Absent Days for Social Studies is associated with increases in Total Social Studies Averages. A possible explanation for the positive correlation results in Social Studies at School C may be that the teacher either made up for the lost time with additional classes or the students did the additional work themselves so that they could catch up on what instruction was lost. Additionally, the parents might have paid for extra lessons for their children and so the children knew the work and performed well in their studies.

Most importantly, in the Barbadian school system, Social Studies is introduced to the students in other subject areas but not as often as English is. When students learn History and Geography they are also exposed to material which is being taught in Social Studies. Therefore, when the teacher is absent for Social Studies, the student can still learn some of the concepts in these subject areas. As well, being able to answer civic questions will not be that daunting to students, as Social Studies is basic general knowledge and about their everyday lives.

Abadzi (2007) argues that if every student has the required textbooks for school and are using them at home to do more homework assignments, when the teacher is absent from school any homework given should be seen as them having extra instructional time (Abadzi, 2007). This assertion would imply that the mind-set of all students would be the same and they would all be committed to their studies. This may have been the case for those students in English at School A, and Social Studies at School C who had good results even though their teachers were absent. However, this might not prevail in some instances as some students may refuse to do the given homework and therefore would not be able to progress in their studies. Such instances of not putting in the extra effort with homework may be one of the reasons for the low achievement in many of the core subjects at the Barbadian schools under investigation. This is especially so where students come from low socio-economic backgrounds. This circumstance can be a major challenge in their education as their parents will have to be out working long hours to earn a living and have very little time to ensure that homework is done. The parents of these children might also not be able to give their children some of the experiences of the other students in the class. This could include visits to places of interest and of national significance which might be the topic of discussion in class.

Regression analyses were subsequently conducted on the questionnaire data to answer Research Question 4 and determine whether the relationship between teacher absence and student achievement differ between teachers with diverse characteristics at the three Barbadian schools. The regressions were to determine the relationship between Total Averages in each of the core subjects and the five predictor variables of Total Teacher Absences; Teacher Experience; Personal/Circumstantial Factors; Job Satisfaction and Motivation and Policy and Procedural Factors. At School A, it was found that Personal/Circumstantial Factors, Job Satisfaction and Motivation and Teacher Absences were all significant predictors of Total English Averages, with English Teacher absences being the strongest of the predictors.

For Integrated Science, only Teacher Absences and Job Satisfaction and Motivation were significant predictors of Integrated Science Averages. In Math, Personal/ Circumstantial Factors, Teacher Absences, Job Satisfaction and Motivation, Policy and Procedural Factors were significant predictors of Math averages, with Personal/ Circumstantial Factors being the strongest predictor and Teacher Absences the second strongest.

Social Studies found that Teacher Absences, Personal/ Circumstantial Factors, Job Satisfaction and Motivation, and Teacher Absences were significant predictors of Social Studies averages. Teacher Absences for Social Studies was the strongest predictor of student averages. In the final regression for School A, only Teacher Absences was a significant predictor of Spanish Averages. In none of the regression analyses was Teacher Experience a significant predictor. This is suggesting that the length of time a person stays in teaching does not automatically mean that they will be an effective teacher. Rather, it might suggest that the longer a person stays in teaching the more time they spend away from the classroom, resulting in lower student averages. These results are noteworthy as according to Darling-Hammond (2000), as

evidence from previous research based on teacher experience and student achievement sometimes found that a significant and linear relationship existed between teacher effectiveness and the amount of years' experience, as the trained teacher was better able to progress students' learning (Darling-Hammond, 2000). However this did not obtain at School A. This is further supported by Betts et al. (2003) cited in De Luca et al. (2012) who found only a weak relationship between teacher experience and student achievement.

At School C, Personal/ Circumstantial Factors and Job Satisfaction and Motivation were the two strongest of the predictor variables for English Averages. For Integrated Science, Teacher Absence and Personal/ Circumstantial Factors were found to be the strongest of the predictor variables, and for Math, Teacher Absence and Job Satisfaction and Motivation were the strongest of the predictor variables for Math. Consequently, holding the other predictors in the model constant, a one SD increase in Teacher Absences at School C is expected to result in a $-.51SD$ decrease in Total Math Averages at School C.

For Social Studies, Teacher Absence and Job Satisfaction and Motivation were the strongest of the predictor variables. The strongest predictors of Spanish Averages were Teacher Absences and Personal Circumstantial Factors. Findings for Social Studies and Spanish was contrary to what was expected, but comparable to findings of Abadzi (2007) and Tingle et al. (2012) who discovered either a 'weak effect' or 'no effect' at all between teacher absenteeism and student achievement. Likewise, Ehrenberg et al. (1991) found no significant effects between student achievement and teacher absences in a study of the New York school district.

The positive results in Social Studies and English at the two schools would suggest that the presence of the teacher in the classroom is not a fundamental part of student learning. This

finding was interesting as it meant that when teachers were absent for these two subjects, student grades were found to have increased rather than decreased as students did better when their teachers were absent. This might imply that the students studied more when their teachers were absent so as not to fall behind in their work. Additionally, in most cases, the teacher being motivated to come to school and being satisfied with the job, determined whether their students would do well in the subject. It may be that because the teachers were so satisfied, motivated and experienced, when they came to class, they made classes interesting and delivered the material so effectively that the students were able to grasp the concepts easily and could therefore follow on without the teacher always being there for instruction.

These varied findings show that there is no one factor which is responsible for student achievement but a combination of them. In the present study, there were contradictory results which showed that there was no consistent evidence of a relationship between teacher absenteeism and student achievement. This tells us that teacher absences cannot be viewed in isolation; the causes for these absences also need to be taken into consideration to determine what affects student achievement. This includes Teacher Experience; Personal/Circumstantial Factors; Job Satisfaction and Motivation and Policy and Procedural Factors. Where the experience of the teacher had no major impact on student averages in any of the core subjects, some of the other predictors of teacher absences did. At School A and School B, it was determined that Job Satisfaction and Motivation, Personal Circumstantial Factors, and Policy and Procedural Factors had a negative impact on student averages in many of the core subject areas in some cases where teacher absences did not.

The student being absent from school must also be considered as a possible reason for his low achievement. If the student is constantly absent from school they will miss the work which will be necessary to further their knowledge, and might not know how to catch up with the work.

Conclusion

Teacher absenteeism is fast becoming a major challenge for many educational institutions worldwide. The types of leave policies which continue to exist within many countries give teachers the scope to abuse them. Therefore, Education Ministries must endeavour to make adjustments to these policies to discourage absenteeism and insist that teachers come to school more often or be sanctioned for their constant absences. A greater focus is needed at the level of government on the impact of teacher absenteeism on student achievement. It is not enough to record absenteeism data on teachers and not implement corrective measures to combat the problem. In the Barbadian school system, where unappointed teachers surpass the fourteen days sick leave and appointed ones their twenty-one sick days, deductions should be made from their pay by the Ministry of Education for every additional day of absence. This would serve as a reminder of the amount of their sick leave allowance, and that abuse of the system of sick leave would not be allowed. What teachers must be mindful of is that they are asking to be seen as professionals and these overwhelming spates of absences do not show professionalism and will not help their cause.

The teacher, whom the student interacts with most, is vital in the educational development of a student (Whitehead, 2009). Therefore it is of utmost importance that the teacher maximizes their time instructing in the classroom and not absent themselves from school. When children are constantly left unattended they would eventually lose interest in the subject,

and being constantly exposed to a substitute would make them feel neglected by their substantive teacher. In order for meaningful relationships to form between teacher and pupil, it will be necessary for the teacher to spend most of the class time with their students. The fact that some of the teachers were not coming to class regularly might have been affecting the students. While they might not have openly admitted this, their responses to the open-ended questions on the student questionnaire are suggestive of this. Further, their regular absences may have also encouraged misbehavior as advanced by Scott et al. (2007).

Teachers at the three Barbadian Secondary Schools under investigation have advanced several reasons which might cause them to be absent from school, many any of which are similar to those put forward by other teachers worldwide. While many of these reasons may be genuine, it is still the duty of the teacher to ensure that their responsibilities to their students are met. Where the teacher is often absent this can cause students to lose interest not only in the subject missed, but in school as a whole. Therefore, if teacher absenteeism is to improve, it will have to be a collective effort of the Ministry of Education and the school principal to execute the necessary regulations to curb these frequent teacher absences.

Schools should be a place of learning and students should have their teachers present when they arrive to class. If students are to achieve they must be allowed the time to study with the subject teacher, as recommended by Brophy (1988) and Spencer (1988). These constant absences by teachers in the current study have sent a negative message to their students who believe that they do not want to teach them. Teachers who are constantly present for work should also try to encourage their peers to come to school as it can also cause bad relationships between teachers who must constantly substitute. It will therefore be the responsibility of the parents to make representation to the Ministry of Education on their children's behalf to ensure

that corrective measures would have to be taken. It would then be the duty of the Ministry of Education to find out what is causing these absences. If teachers are to feel comfortable at school so that they would want to be there, an effort should be made by the school administration to improve staff morale at the schools. This seems to be a factor which is preventing some of the teachers from attending the three schools under investigation. This could be done by simply ensuring that the needed resources for classes are readily available to teachers. This in turn would make teachers more motivated to teach their classes.

Additionally, when students are often absent this may encourage teachers to be absent as they can see their efforts as being futile. Children can be absent for a number of reasons which in turn can be directly responsible for their low achievement. Where some children do not have similar experiences in class due to their socio-economic background, this becomes a challenge in education and can also affect student achievement. Where there is little money in the home, some students will not be able to take part in several class activities which might include tours, because their parents cannot pay. These tours may be part of the lesson and the student who is unable to attend will automatically miss out on these necessary experiences which would be crucial to their achievement. This will cause a feeling of inferiority on the part of the student and may eventually lead to student absenteeism from school which would eventually impact on their achievement.

It has been found in many cases in the literature that it was the leadership practices of the principal which promoted absenteeism in the schools. In every work place, people want to feel as though they belong and are part of the organization. Therefore, where work conditions are not favourable to teachers and they perceive that they are being treated unfairly, that in itself will lead to absenteeism (De Boer et al., 2002). As found in the present study, those who were fairly

new to the system had become disillusioned early in their teaching career. In the Barbadian school system, every teacher in the classroom may have the requisite qualifications necessary to teach the subject they were hired to teach. However, they may not have the necessary teacher training for the classroom. This can lead to frustration on the part of the teacher if they find that they are not able to deliver the subject matter effectively. Teachers, especially the new ones, would then expect guidance from the school Principal, being the leader of the institution. They expect him or her to be an instructional leader and suggest ways to teach their classes to make them more interesting to the students and make them more effective teachers. Also, they require the Principal to explore with them various methods of dealing with deviant behaviour in the classroom. Where this becomes the norm at the school, teachers would feel less stressed about coming to school, would become more committed and be there more often. However, if this is to be realized at the Barbadian schools, officials at the Ministry of Education would need to pay attention to the reasons for these absences as highlighted in the study, and endeavour to work closely with the principals of these schools to take corrective measures.

In sum, although there is great unison between researchers that teacher absence is responsible for low levels of student achievement, the findings of this study indicate that while teacher absenteeism does play some part in student achievement, is not solely responsible for the underachievement of students.

Limitations of the study

- A) Various studies have used the socio-economic background of the student as one of the factors influencing student achievement. This study focuses solely on factors affecting the teacher which might influence student achievement and so that aspect of the study is lacking. Further, the qualification of the teacher was not used as a measure of determining teacher absence as done in other studies. Therefore, future studies can seek to determine if the level of qualification held by the teacher and the socio economic background of the student makes a difference in the level of achievement of students in the core subject areas at the three Barbadian secondary schools.
- B) The study is limited to a one-year period. A further study could be done to see if there is a change in grades in the following year when students change classes.
- C) The study is limited to three secondary schools. A further study might be done to compare data between all of the secondary schools in Barbados. A similar study can also be carried out within the primary school system to see if results differ between the two levels.
- D) Even though the Teacher Absence variable was found to be the main contributor to student achievement, this study did not consider whether the student being absent from class also had an impact on their achievement. This is being considered as some of the students of the three schools admitted to absenting themselves from class without a valid reason and this might have contributed to their low achievement.

- E) Based on the design of the research, the method of data collection and the type of analyses used, the research does not allow for a causal interpretation of the results.
- F) Using the questionnaire for data collection is limited to what teachers are willing to share.
- G) The researcher being a senior member of staff at one of the schools in the research, and then being the researcher, will have some influence on how those participants of the same school respond to the questions in the survey.
- H) Participants in the research may believe that they will be viewed negatively by their peers for divulging information about the school which their peers perceive to be confidential.
- I) The researcher acknowledges that in the interpretation of the data there may be some bias based on the researcher's perceived suppositions about the level of absenteeism at her school

Recommendations for future research

The following recommendations are being made with the hope that they will offer some redress to the current situation which now exist at the three Barbadian Secondary Schools in terms of teacher absences.

- 1) .As teachers are not being sanctioned for their high level of absences; further studies should be conducted to find out what are the responsibilities of the local Education authorities to ensure high levels of teacher attendance.
- 2) That further research is carried out to find out if the job satisfaction and motivation of the teacher is influenced by the level of student attendance at the school. Does student attendance affect the job satisfaction and motivation of teachers?

References

- Abadzi, H. (2007). *Absenteeism and beyond: Instructional time loss and consequences*. (Policy Research Working Paper 4376). Retrieved from The World Bank Independent Evaluation Group Sector, Thematic, and Global Evaluation Division website:
<https://dx.doi.org/10.1596/1813-9450-4376>
- Alcázar, L., Rogers, H., Chaudhury, N., Hammer, J., Kremer, M., & Muralidharan, K. (2006, February). Why are teachers absent?: Probing service delivery in Peruvian primary schools. *International Journal of Educational Research*, 45(3), 117-136.
<https://dx.doi.org/10.1016/j.ijer.2006.11.007>
- Allen, R., & Burgess, S. & Mayo, J. (2012). *Parliamentary Business*. Retrieved from Education Committee, Parliament, U. k. website:
<https://www.publications.parliament.uk/pa/cm201012/cmselect/cmeduc/1511515vw40.htm>
- Al-Hassan, S. (2009). *An assessment of the effects of teacher absenteeism on quality teaching and learning in public primary schools in Northern Ghana* (Draft Report Submitted to R4D by NNED & IBIS). Retrieved from https://tap.resultsfordevelopment.org/sites/tap.resultsfordevelopment.org/files/resources/IBIS_DelC_Final.pdf
- Ballard, K., & Bates, A. (2008). Making a connection between student achievement, teacher accountability, and quality classroom instruction. *The Qualitative Report*, 13(4), 560-580. Retrieved from <https://nsuworks.nova.edu/tqr/vol13/iss4/3>
- Banerjee, R., King, E., Orazem, E., & Paterno, E. (2012). Student and teacher attendance: The role of shared goods in reducing absenteeism. *Economics of Education Review*, 31(5), 563-574. <https://dx.doi.org/10.1016/j.econedurev.2012.04.002>

- Bayard, S. R. (2003). *A study of the relationship between teacher absenteeism, teacher attributes, school schedule and student achievement* (Unpublished doctoral dissertation). Florida Atlantic University, Boca Raton, FL.
- Bell, J. (2002). Questionnaires. In M. Coleman, & A. Briggs (Eds.), *Research methods in educational leadership and management* (pp.159-171). London, England: Paul Chapman.
- Bowers, T. (2001). Teacher absenteeism and ill health retirement: A review. *Cambridge Journal of Education*, 31(2), 135–157. <https://dx.doi.org/10.1080/0305764012006119>
- Brophy, J. (1988). Research linking teacher behaviour to student achievement: Potential implications for instruction of Chapter 1 students. *Educational Psychologist*, 23(3), 235-286. https://dx.doi.org/10.1207/s15326985ep2303_3
- Brown, S., L. & Arnell, A. T. (2012). Measuring the effect teacher absenteeism has on student achievement at an “urban but not too urban”: Title 1 elementary school. *International Journal of Humanities and Social Science*, 2(17), 172-183. Retrieved from <https://www.ijhssnet.com/journals/ vol 2 No 17 September 2012/17.pdf>
- Bruno, J. E. (2002). The geographical distribution of teacher absenteeism in large urban school district settings: Implications for school reform efforts aimed at promoting equity and excellence in education. *Education Policy Analysis Archives*, 10(32), 1-3. <https://epaa.asu.edu/ epaa/v10n32/>
- Buijs, J. A. (2005). Teaching: Profession or vocation? *Catholic Education: A journal of inquiry and practice*, 8(3), 326-345. <https://dx.doi.org/10.15365/joce.0803042013digitalcomm>
- Burris, L.L. (2002, April). *A correlational study of teacher absences and student test scores in Urban and Suburban environments*. (Department Honours Thesis). University of Tennessee at Chattanooga: TN.

- Bush, T. (2002). Authenticity – reliability, validity and triangulation. In M. Coleman, & A. Briggs (Eds.), *Research methods in educational leadership and management* (pp. 59-72). London, England: Paul Chapman.
- Carter, J. (2010). *A correlational study of principals' leadership style and teacher absenteeism* (Doctoral dissertation). Retrieved from ProQuest LLC.
https://acumen.lib.ua.edu/content/u0015/00000001/0000418/u0015_00000001_0000418.pdf
- Casio, W. F. (2003). *Managing human resources: Productivity, quality of work life, profits* (3rd ed.). New York: McGraw-Hill.
- Chaudhury, N., Hammer, J., Kremer, M., Muralidharan, K., & Rogers, F. H. (2006). Missing in action: Teacher and health worker absence in developing countries. *Journal of Economic Perspectives*, 20(1), 91–116. [https:// dx.doi. 10.1257/ 089533006776526058](https://dx.doi.org/10.1257/089533006776526058)
- Cheng, A. (2013). *Taking attendance: Teacher absenteeism across school types*. (EDRE Working Paper 2013 – 09). Retrieved from <https://www.uaedreform.org/wp-content/uploads/2013/08/Cheng-EDRE-WP-2013-09.pdf>
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). *Are teacher absences worth worrying about in the U.S?* (NBER Working Paper 13648). Retrieved from National Bureau of Economic Research website: <https://www.nber.org/papers/w13648>
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research methods in education* (6th ed.). London: Routledge.
- Cooper, C., & Dewe, P. (2008). Well-being – absenteeism, presenteeism, costs and challenges. *Occupational Medicine*, 58(8), 522-524. Oxford University Press. Oxford: UK. <https://dx.doi.org/10.1093/occmed/kqn124>
- Cortazzi, M. (2002). Analysing narratives and documents. In M. Coleman & A. Briggs (Eds.).

- Research Methods in Educational Leadership and Management* (pp. 196–212). London, England: Paul Chapman.
- Creswell, J. W. (2012). *Educational Research: Planning, conducting and evaluating quantitative and qualitative research* (4th ed.). Boston, MA: Pearson.
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Los Angeles, CA: Sage.
- Cueto, S., Guerrero, G., Leon, J., & Sigamuru, C. (2010). *What works to improve teacher attendance in developing countries? Protocol for review*. Department for International Development, London: England. Retrieved from http://www.dfid.gov.uk/R4D/PDF/Outputs/SystematicReviews/FINAL-Q39-Monitoring-Attendance-Protocol-DFID-GRADE.doc_P1.pdf Google Scholar
- Dafydd, G. (2012). *Teachers in service, vacancies and sickness absence*. (Ystadegau National Statistics for Wales SRD 89/2012). Knowledge and Analytical Services, Cardiff: Welsh Government, Cathays Park, CF103NQ. SDR 89, 2012. Retrieved from https://wales.gov.uk/docs/statistics/2012/120614_sdr892012en.pdf
- Darling-Hammond, L. (2000, November). Teacher quality and student achievement: A review of state policy evidence. *Education Policy Analysis Archives*, 8(1), 1-44. <https://dx.doi.org/10.14507/epaa.v8n1.2000>
- Das, J., Dercon, S., Habyarimana, J., & Krishnan, P. (2007). Teacher shocks and student learning: evidence from Zambia. *Journal of Human Resources*, 42(4), 820-862. Retrieved from <https://www.jstor.org/stable/40057331>
- De Boer, E. M., Bakker, A. B., Syroit, J. E., & Schaufeli, W. B. (2002). Unfairness at

work as a predictor of absenteeism. *Journal of Organizational Behavior*, 23, 181-197.

<https://dx.doi.org/10.1002/job.135>

De Luca, B. M., Ziswiler, K.M., & Hinshaw, S. A. (2012, March, 15-17). *Teacher characteristics predicting high school student success: Implications for finance and policy*. Paper presented at the Association of Education Finance and Policy Conference, Boston: MA.

Derycke, H., Vlerick, P., Van de Ven, B., Rots, I., & Clays, E. (2013). The impact of effort- reward imbalance and learning motivation on teachers' sickness absence. *Stress and Health*, 29(1), 14 – 21. <https://dx.doi.org/10.1002/smi.2416>

Dimmock, C., & Walker, A. (2002). School leadership in context – Societal organizational cultures. In T. Bush, & L. Bell (Eds.), *The principles and practice of educational management* (pp. 70–85). London, England: Paul Chapman.

Duflo, E., & Hanna, R. (2005). *Monitoring works: Getting teachers to come to school*. (NBER Working Paper 11880), Retrieved from the National Bureau of Economic Research Inc. website: <https://www.nber.org/papers/w11880>

Duflo, E., & Hanna, R. (2007). *Monitoring works: Getting teachers to come to school*. Cambridge, MA: Massachusetts Institute of Technology. Retrieved from <https://pdfs.semanticscholar.org/c39d/1baf842d1bf2e835d85af4349a763bcd2da.pdf>

Duflo, E., Hanna, R., & Ryan, S. (2012). Incentives work: Getting teachers to come to School. *American Economic Review*, 102(4), 1241–1278.
<https://dx.doi.org/10.1257/aer.102.4.1241>

Ehrenberg, R. G., Ehrenberg, R. A., Rees, D. I., & Ehrenberg, E. L. (1989). *School*

- district Leave policies: Teacher absenteeism, and student achievement*. (NBER Working Paper.2874). Retrieved from the National Bureau of Economic Research website:
<https://www.nber.org/papers/w2874>
- Ehrenberg, R. A, Ehrenberg, R. G., Rees, D. I., & Ehrenberg, E. L. (1991). School district leave policies, teacher absenteeism, and student achievement. *The Journal of Human Resources*, 26(1), 72-105. <https://doi:10.2307/145717>
- Finlayson, M. (2009). *The impact of teacher absenteeism on student performance: The case of the Cobb County School District* (Master's thesis). Retrieved from Dissertations, Theses and Capstone Projects. (Paper 4), <https://digitalcommons.kennesaw.edu/etd/4>
- Garcia, E., & Weiss, E. (2018). *Student absenteeism: who misses school and how much missing school matters for performance*. Economic Policy Institute. Washington: DC. Retrieved from <https://eric.ed.gov/?id=ED593361>
- Gillies, J., & Quijada, J.J. (2008). *Opportunity to Learn: A high impact strategy for improving educational outcomes in developing countries*. (USAID. ERIC No. ED505686). Washington: DC. Retrieved from <https://eric.ed.gov/?id=ED505686>
- Goldstein, J. S., Little, S. G., & Akin-Little, K, A. (2003). Absenteeism: A review of the literature and school psychology's role. *The California School Psychologist*, 8, 127-139. Retrieved from <https://ERIC.EJ933629>
- Goodman, S. F., & Turner, L. J. (2010). *Teacher incentive pay and educational outcomes: Evidence from the New York City bonus program*. (Program on Education Policy and Governance Working paper series). Retrieved from https://www.hks.harvard.edu/pepg/MeritPayPapers/goodman_turner_10-07.pdf
- Grant, F.D. (2001). Staff attendance...the forgotten key! *SubJournal*, 1(2), 42 -47. Retrieved

- from http://88pqz2md3zt3enasj4b54xk180s.wpengine.netdna-cdn.com/wp-content/uploads/2014/08/StaffAttendance_theForgottenKey.pdf
- Gravetter, F. J., & Wallnau, L.B. (Eds). (2013). *Statistics for the behavioral cengage learning*. CA, USA: Wadsworth.
- Guerrero, G., Leon, J., Zapata, M., Sugimaru, C., & Cueto, S. (2012). *What works to improve teacher attendance in developing countries?: A systematic review*. Retrieved from EPPI-Centre, Social Science Research Unit, Institute of Education, University of London. https://r4d.dfid.gov.uk/pdf/outputs/systematicreviews/q39teacher_attendance_2012_guerrero.pdf
- Haberman, M. (2004, Spring). Teacher burnout in black and white. *The New Educator*, 1(3), 153-175. <https://dx.doi.org/10.1080/15476880590966303>
- Hackett, R. D., & Bycio, P. (1996). An evaluation of employee absenteeism as a coping mechanism among hospital nurses. *Journal of Occupational and Organizational Psychology*, 69(4), 327–338. <https://dx.doi/10.1111/j.2044-8325.1996.tb00619.x>
- Hammond, O. W., & Onikama, D. L. (1997). At risk teachers. *Honolulu, HI: Pacific Resources for Education and learning*. (ERIC Document Reproduction Service No. ED442796). Retrieved from <https://files.eric.ed.gov/fulltext/ED442796.pdf>
- Harris, A. (2009). (Ed.). Different perspectives Distributed leadership. *Studies in educational leadership* 7. Springer: Netherlands. <https://dx.doi.10.1007/978-1-4020-9737-9>
- Harris-Van Keuren, C., Steiner-Khamsi, G., Omoeva, C., & Shiotani, A. (2009, January). *Teacher absenteeism and accountability*. (USAID Education Strategy Development). Retrieved from https://www.academia.edu/2380578/Teacher_Absenteeism_and_Teacher_Accountability_USAID_Paper

- Herman, J., & Gribbons, B. (2001, February). *Lessons learned in using data to support school enquiry and continuous improvement: Final report to the Stuart Foundation*. (CSE Technical Report 535). Center for the Study of Evaluation. University of California, LA. Retrieved from <https://www.cse.ucla.edu/products/reports/TR535.pdf>
- Herrmann, M. A., & Rockoff, J. E. (2010). *Worker absence and productivity: Evidence from teaching* (NBER Working Paper 16524). Retrieved from National Bureau of Economic Research website: <http://www.nber.org/papers/w16524>
- Hill, A. (2008, Sunday, August, 31). Depressed, stressed: Teachers in crisis. *The Guardian* (International ed.). Retrieved from <https://www.theguardian.com/education/2008/aug/31/teaching.teachersworkload>
- Ivatts, A. R. (2010). *Literature review on teacher absenteeism*. Italy: Roma education fund. Retrieved from [https://www.romadecade.org/file/downloads/News/teacher%20absenteeism %20 literature%20review.pdf](https://www.romadecade.org/file/downloads/News/teacher%20absenteeism%20literature%20review.pdf)
- Jacob, B. A., & Lovett, K. (2017). *Chronic absenteeism: An old problem in search of new answers* (USED Report). Retrieved from <https://www.brookings.edu/research/chronic-absenteeism-an-old-problem-in-search-of-new-answers/>
- Jacobs, K., & Kritsonis, W. (2007, Fall). An analysis of teacher and student absenteeism in urban schools: What the research says and recommendations for educational leaders. *The Lamar Electronic Journal of Student Research*. 1-7. Retrieved from <https://eric.ed.gov/?id=ED499647>
- Johnson, B., & Turner, L. A. (2003). Data collection strategies in mixed methods research. In A. M. Tashakkori., & C. B. Teddlie (Eds.). *Handbook of mixed methods in social and behavioral research* (pp. 297-319). Thousand Oaks: Sage.

Joseph, N., Waymack, N., & Zielaski, D. (June, 2014). *Roll call: The importance of teacher attendance*. The National Council on Teacher Quality (NCTQ). Retrieved from

https://www.nctq.org/dmsView/RollCall_TeacherAttendance

Kavanagh, J. L. (2019). Chronic Absenteeism: When children disappear. *Children and Youth Advocate*. Newfoundland and Labrador, St. John's: NL. Retrieved from

<https://www.childandyouthadvocate.nf.ca/pdfs/ChronicAbsenteeismJan2019.pdf>

Keller, B. (2008, March, 19). Districts experiment with cutting down on teacher absence (cover story). *Education Week*, 27(35), 1–13. Retrieved from <https://www.edweek.org>

[/ew/articles /2008/03/19 /28absentee.h27.html](https://www.edweek.org/ew/articles/2008/03/19/28absentee.h27.html)

Khan, T. (2006). *Teacher job satisfaction and incentive: A case study of Pakistan*. Retrieved from https://www.dfid.gov.uk/r4d/PDF/.../3888Teacher_motivation_Pakistan.pdf

Kingdon, G. (2007). The progress of school education in India. *Oxford Review of Economic Policy* (GPRG-WPS-071), 23(2), 168–195.

<https://dx.doi.org/10.1093/oxrep/grm015>

Kingdon, G., Aslam, M., Rawal, S., & Das, S. (2012). *Are contract and para-teachers a cost effective intervention to address teacher shortages and improve learning outcomes? Protocol*. EPPI – Centre, Social Science Research Unit. Institute of Education, University of London. Retrieved from <https://eppi.ioe.ac.uk/cms/LinkClick.aspx?fileticket=zKZz9xpxWr8%3D&tabid=3174>

Kremer, M., Chaudhury, N., Rogers, H., Muralidharan, k., & Hammer, J. (2004). Teacher absence in India: A snapshot. *Journal of the European Economic Association*. World Bank. Retrieved from https://siteresources.worldbank.org/DEC/Resources/36660Teacher_absence_in_India_EEA_9_15_04_South_Asia_session_version.pdf

Last, T. S. (2012). Absenteeism report stuns school district officials. *ABQ Journal*.

Retrieved from <https://www.abqjournal.com/main/2012/11/04/north/absenteeism-reort-stuns-school-district-officials.html>

Leaf, P. J. (2011). *Absent teachers, untrained substitutes: The practice of subs babysitting, rather than teaching students must end*. Politics and Policy National Review. Retrieved from <https://www.nationalreview.com/articles/269946/absent-teachers-untrained-substitutes-paul-j-leaf>

Leithwood, K. (2006). *Teacher working conditions that matter: Evidence for change*.

Elementary Teachers' Federation of Ontario: Canada. Retrieved from <https://www.etfo.ca/Resources/forTeachers/Documents/Teacher%20Working%20Conditions%20That%20Matter%20-%20Evidence%20for%20Change.pdf>

Leithwood, K., Harris, A., & Hopkins, D. (2008). 'Seven strong claims about successful school leadership', *School Leadership and Management*, 28(1), 27-42.

<https://dx.doi.org/10.1080/13632430701800060>

Leithwood, K., Jantzi, D., & Steinbach, R. (1999). *Changing leadership for changing times*, Buckingham, UK: Open University Press.

Lewis, J. Jr. (1981). Do you encourage teacher absenteeism? *American School Board Journal*,

168(11), 29-40. Retrieved from <https://eric.ed.gov/?id=EJ253786>

Luke, M. (2000). *Education in Barbados Information handbook*. Planning and Research

Section, Ministry of Education, Youth Affairs and Culture, Barbados.

Luyten, H., Visscher, A., & Witziers, B. (2005). School effectiveness research:

- From a review of the criticism to recommendations for further development. *School Effectiveness and School Improvement*, 16(3), 249–279.
<https://dx.doi.org/10.1080/09243450500114884>
- Mckenzie, P., Nugroho, D., Ozolins, C., McMillian, J., Sumarto, S., Toyamah, N., ...& Sim, A. A. (2014). *Study on teacher absenteeism in Indonesia 2014*. Australian Council for Educational Research (ACEReSearch), Evaluation of Educational Policy and Reform Programs Teaching and Learning and Leadership 12-2014.
- Mertens, S. B., & Anfara, V. A., Jr. (2006). *Research summary: Student achievement and the middle school concept*. Retrieved from
<https://pdfs.semanticscholar.org/53aa/099ca71d7e55ac0621f3724d329114d224b4.pdf>
- Miller, R. (2012). *Teacher absence as a leading indicator of student achievement: New National Data offer opportunity to examine cost of teacher absence relative to learning loss*. Retrieved from Center for American Progress website:
<https://www.americanprogress.org/issues/education/report/2012/11/05/40371/teacher-absence-as-a-leading-indicator-of-student-achievement/> Center for American Progress
- Miller, R., Murnane, R., & Willet, J. (2007, August). *Do teacher absences impact student achievement? Longitudinal evidence from one urban school district* (NBER Working Paper 13356). Retrieved from the National Bureau of Economic Research website:
<https://www.nber.org/papers/w13356>
- Ministry of Education, Youth Affairs and Culture (2000). *Education in Barbados Information Handbook*. The planning and Research Section: Barbados.
- Muijs, D. (2004). *Doing quantitative research in education*. London: Sage.
- Murphy, J. (2006). *Connecting teaching leadership and school improvement*. Thousand Oaks,

CA: Corwin Press.

National Council on Teacher Quality (2008). *What states can do to retain effective teachers*.

Retrieved from https://www.nctq.org/stpy08/reports/stpy_national.pdf

Naylor, C. (2001). *Teacher workload and stress: An international perspective on human costs and systemic failure*. (Research Report BCTF –RRRT01-0043). British Columbia

Teachers' Federation, Vancouver: Canada. Retrieved from

<https://eric.ed.gov/?id=ED464028>.

Norton, M. S. (1998). Teacher absenteeism: A growing dilemma in education. *Contemporary*

Education, 69(2), 95-99. Retrieved from <https://web.ebscohost.com.proxy.library.vcu.edu>

Obeng-Denteh, W., Yeboah, E., Sam, C., & Monkah, J. (2011). The impact of student and teacher absenteeism on student performance at the junior high school: The case of the Kumasi-Metro School District. *Continental Journal of Education Research*, 4(1), 7–17.

Retrieved from

https://www.academia.edu/769465/THE_IMPACT_OF_STUDENT_AND_TEACHER_ABSENTEEISM_ON_STUDENT_PERFORMANCE_AT_THE_JUNIOR_HIGH_SCHOOL_THE_CASE_OF_THE_KUMASI_METRO_SCHOOL_DISTRICT

Owen, A.T. (2010). *Leadership practices that influence teacher attendance in a low and high*

teacher absentee school. (Doctoral dissertation). Paper 326. Georgia Southern

University, Statesboro: GA. Retrieved from

<https://digitalcommons.georgiasouthern.edu/etd/326>

Pirog, M. A., & Kioko, S. N. (2010). Evaluation of the Education Sector Enhancement Program in Barbados. *International Public Management Journal*, 13(1), 72-99.

<https://dx.doi.org/10.1080/10967490903547357>

- Pitkoff, E. (1993). Teacher absenteeism: what administrators can do. *NASSP Bulletin*, 77(551), 39–45. <https://dx.doi.org/10.1177/01926365930775510>
- Pitkoff, E. (2003). School district practices that encourage teacher absenteeism. *School Administrator*, 60(6), 34. Retrieved from <https://eric.ed.gov/?id=EJ667855>
- Pitts, K. (2010). *Teacher Absenteeism: An examination of patterns and predictors* (Doctoral Dissertation). Virginia Commonwealth University, Richmond: VA. Retrieved from <https://scholarscompass.vcu.edu/etd/2077/>
- P.J.T (2013, August 08). Lack of job satisfaction a main culprit. *The Barbados Advocate Newspaper*, p. 2.
- Porres, A. (2016,). *The impact of teacher absenteeism on student achievement: A study on U.S public schools, using results of the 2011-2012 Civil Rights data collection*. (Master's thesis). Georgetown University, Washington: DC. Retrieved from <https://pdfs.semanticscholar.org/b462/5a9158c1a1f8a25361c142dcdb5dd72670d1.pdf>
- Ramsey, J., Punnett, B., & Greenidge, D. (2008). A social psychological account of absenteeism in Barbados. *Human Resource Management Journal*, 18(2), 97–117. <http://dx.doi.org/10.1111/j.1748-8583.2007.00053.x>
- Robbin, S.P. (2003). *Organizational Behaviour*, (10th. ed.). NJ: Prentice-Hall.
- Robinson, C, M. (2008). *Teacher absenteeism: Its relationship to student performance on state assessments in English/Language Arts in grades three, five, and seven*. (Doctoral thesis). Paper 83. Retrieved from https://fisherpub.sjfc.edu/education_etd/83
- Rogers, H. F., & Vegas, E. (2009, February). *No more cutting class? reducing teacher absence and providing incentives for performance*. (Policy Research Working Paper No.

- WPS4847). Retrieved from World Bank Development Research Group.
<https://documents.worldbank.org/curated/en/696251468041441277/No-more-cutting-class-reducing-teacher-absence-and-providing-incentives-for-performance>
- Rosenblatt, M., & Shirom, G. (2005). The effects of pay incentives on teacher absenteeism. *The Journal of Human Resources*, 24, 280-286. Retrieved from <https://www.jstor.org>
- Ross, J. A., & Berger, M. (2009). Equity and leadership: Research-based strategies for school leaders. *School Leadership and Management*, 29(5), 463–476.
- Sanders, W. (1999, Fall). Teachers! Teachers! Teachers! *Blueprint Magazine, Online*. Retrieved from <https://www.ndol.org/blueprint/fall/1999/solutions4.html>
- Santiago, C., Guerrero, G., Leon, J., & Leon, S. (2010). *Systematic review on what works to improve teacher attendance in developing countries*. Retrieved from EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.
https://assets.publishing.service.gov.uk/media/57a08a6040f0b652dd0006da/Q39Teacher_attendance_2012Guerrero.pdf
- Schaufeli, W., & Bakker, A. (2004). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behaviour*, 25, 293–315. <https://dx.doi:10.1002/job.248>
- Scott, K., & Wimbush, J. (1991). Teacher absenteeism in secondary education: An Abstract. *Educational Administration Quarterly*, 27(4), 506–529.
<https://dx.doi:10.1177/0013161x91027004004>
- Scott, L., Vaughn, C., Wolfe, M., & Wyant, C. (2007). *Reducing teacher absences in*

North Carolina: A report for the North Carolina Department of Public Instruction.

Retrieved from The Terry Sanford Institute of Public Policy, Duke University website:

<https://sanford.duke.edu/research/students/spring2007-05es.pdf>

Slater, H., Davies, N., & Burgess, S. (2012). Do teachers matter? Measuring the

variation in teacher effectiveness in England. *Oxford Bulletin of Economics and*

Statistics, 74(5), 629 – 645. Retrieved from

<https://www.bristol.ac.uk/cmpo/publications/papers/2009/wp212.pdf>

Speas, C. M. (2010). *Teacher absences: Types, frequency, and impact on student*

achievement. Wake County Public School System, 2007- 2008. (E & R Report No. 09.37).

Retrieved from Evaluation and Research Department Raleigh: NC.

<https://www.wcpss.net/results/reports/2010/0937teacher-absence08.pdf>

Spencer, A. V. (1988). *Teacher absenteeism: characteristics and implications in selected Iowa*

school districts (Doctoral Dissertation). Retrieved from Retrospective Theses and

Dissertations. (No. 9731). Iowa State University Digital Repository.

<https://lib.dr.iastate.edu/cgt/viewcontent.cgi?article=10730&context=rtd>

Steers, R., & Rhodes, S. (1978). Major influences on employee attendance: A process

model. *Journal of Applied Psychology*, 63(4), 391– 407.

<https://dx.doi.org/10.1037/0021-9010.63.4.391>

Tingle, L. R., Schoeneberger, J., Wang, C., Algozzine, B., & Kerr, E. (2012,). An

analysis of teacher absence and student achievement. *Education*, 133(2), 367. Project

Innovation: Alabama. Retrieved from

https://link.gale.com/apps/doc/A313160609/AONE?u=mlln_s_stonecol&sid=AONE&xid=23cba531

- Tranmer, M., & Elliot, M. (2008). *Multiple Linear Regression*. Cathie Marsh Centre for Census and Survey Research.
- Tull, A. D. (2012). *A qualitative study of Barbadian teachers' professional identity*. (Doctoral Thesis), University of Sheffield, UK. Retrieved from <https://pdfs.semanticscholar.org/7310/960a9f39a58103d9ec7dece71714494400b9.pdf>
- Tuerk, P.W. (2005). Research in the High-stakes era: Achievement, resources, and no child left behind. *Psychological Science*, 16(6), 419-425.
<https://dx.doi.org/10.1111/j.0956-7976.2005.01550.x>
- Whitehead, D (2009). "Teacher, where are you? (From the Executive Director), (teacher absenteeism) Association for Childhood Education International. *Childhood Education*, 85(4), 242. Gale Universitas Muhammadiyah Malang. (Doc. No. A198931300). Retrieved from <https://digilib.umm.ac.id/files/disk1/326/jiptummpp-gdl-jou-2009-whitehead-16276-Teacher.pdf>
- Yanadori, Y., & Van Jaarsveld, D. (2014, July). The relationship of informal high performance work practices to job satisfaction and workplace profitability: Industrial relations. *Wiley Periodicals*, 53(3), 501-534. <https://dx.doi.Org/10.1111/irel.12066>
- Yee, K. M. (2007). *Head of the class: Exploring the link between teacher quality, instructional practice, and student outcomes in Indonesia, Malaysia and the Philippines*. Retrieved from https://aladinrc.wrlc.org/bitstream/handle/1961/4140/etd_kmy.pdf?sequence=1
- Yong, A., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, 9(2), 79–94.
<https://dx.doi.20982/tqmp.09.2.p079>
- Ystadegau National Statistics for Wales. (2012). *Teachers in service, vacancies and*

sickness absence: January 2012. (CF103NQ.SRD 89, 2012). Knowledge and Analytical Services, Cardiff: Welch Government. Retrieved from https://wales.gov.uk/docs/statistics/2012/120614_sdr892012en.pdf

Zuckerbrod, N. (2008, January,16). Teacher absences are hurting learning. *FOX News*.

Retrieved from

https://www.foxnews.com/printer_friendly_wires/2008Jan16/0,4675,TeacherAbsences,00.h

Appendix A

Definition of Terms

Absenteeism

Absenteeism has been defined by Robbin (2003) as “the failure to report to work” (p.24). Casio (2003) goes further and adds that it is “any failure of an employee to report for or to remain at work as scheduled, regardless of reason” (p.45).

Jacobson et al. (1993), as cited in Bowers (2001, p.136) offers a varying view and sees it as “to stave off subsequent inevitable ‘absence’”, suggesting that it is not necessarily due to illness, but to other factors influencing an employee’s decision to be present.

Student Achievement

Student achievement is defined as academic achievement as measured by standardized test scores (Mertens & Anfara, 2006).

Appendix B

Teacher Questionnaire

Dear Colleague,

This questionnaire forms part of a Doctoral study which looks at 'Teacher Absenteeism and its Effect on Student Achievement at two secondary schools in Barbados'.

INSTRUCTIONS

- Please answer all questions
- Complete each question by circling the appropriate number
- All information gathered will be kept confidential
- Please do not write your name on the questionnaire
- The questionnaires will be distributed and collected on the same day of completion
- Please answer the questions as honestly as possible with the answer which best represents your opinion
- All information will be treated confidentially and will not be disclosed to any other parties except anonymously as part of my thesis
- You have the right to withdraw at any time

Thank you for your co-operation in the facilitation of this research.

W. S. Lewis

DATA COLLECTION INSTRUMENT

Biographical Information

1. Head of Department
2. Senior Teacher
3. Experienced Teacher (Teaching over ten years)
4. Teacher (Teaching over two years)
5. New Teacher (less than one year experience)

(Circle the statement that applies)

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

Please answer the questions by placing a tick under the number in the column which best represents your opinion. See the rating scale above

The main causes of teacher absenteeism

1 2 3 4 5

Teacher Ability to Attend Work

- | | |
|---|---|
| 1 | Transportation affects my ability to attend work |
| 2 | The proximity of where I live to the school determines my ability to be present for work. |
| 3 | I sometimes absent myself from work to take care of my sick children |
| 4 | Illness causes me to be absent from work more than once a week |

Motivation and expectations

- | | |
|---|---|
| 5 | The school provides incentives to teachers for regular attendance |
|---|---|

		1	2	3	4	5
6	The location of the school in the community influences my decision to be present for work					
7	I take the sick days which I am allowed with full pay in a given year because they are available					
8	I have exhausted most of my allocated sick days for the academic year					
9	I have been absent from work due to the pressures of constant supervision for absent teachers					
10	My absences have been influenced by seeing other teachers frequently absent from work					
11	Class size has contributed to my being absent from work					
12	My ability to be present for work has been influenced by a particular day in the week					
13	The position I now hold is a determining factor in my being absent for work					
14	I regularly schedule personal appointments during teaching time					
15	I am motivated to be at work on a daily basis					
16	I have high expectations from the job and this influences my decision to be present for work					
17	I believe that teacher absenteeism contributes to poor student achievement					

1 2 3 4 5

18 I believe that regular attendance by teachers contributes
to high levels of student achievement

19 I am constantly overlooked for promotion at work

20 I am highly satisfied with the job and this influences
my decision to be present for work

Working conditions and environment

21 I have a comfortable feeling within the school
environment and am therefore present for work.

22 Adequate supplies and materials are made available to
me for usage in my classes and this contributes to my
being present for work

23 I believe that there is a high quality in the infrastructure
and facilities of the school

24 My absences are related to my perceived belief of
teacher inequality in the workplace

25 The lack of clarity of rules and norms influences my
decision to be absent from work.

26 I feel a sense of commitment to the workplace and this
influences my decision to attend work

27 I believe that teachers at the school are committed to
the workplace and are therefore always at work.

28 I value the position I now hold in the school

1 2 3 4 5

- 29 The behaviour of the students influences my decision to be at work.

Collegial Relations

- 30 Collegial relations at the workplace influence my decision to be at work
- 31 I perceive that there is a tolerance for absenteeism at the school
- 32 I believe that teachers support each other at the school
- 33 I believe that teachers encourage each other to be present for work

Principal Leadership Style

- 34 Staff is encouraged by the principal to give feedback which is useful in identifying existing problems or school successes.
- 35 I sometimes use absenteeism as a means of retaliation against administration
- 36 My ability to make or share in important decisions which directly impact on my teaching, influences my decision to be present for school
- 37 Teachers are treated equally at the school by the principal

1 2 3 4 5

38 Concerns of all teachers are treated with the same sense of urgency by the principal

39 The principal holds high expectations of staff

40 The principal maintains a trusting and professional relationship with all members of staff

41 The principal is actively involved in conflict management amongst staff

42 Members of staff are encouraged to express themselves freely

43 The principal encourages unity amongst staff

44 Teachers are given individualized support in their duties when needed

45. Can you give three reasons which might cause you to be absent from work at any time?

.....

.....

.....

.....

46. Do you usually give your students an explanation for your absence from classes?

a) Always b) Sometimes 3) Never 4) Seldom

(Circle the one that applies)

Appendix C

Descriptive Statistics for the Teacher Questionnaire for Schools A, B and C (N=103)

	N	Mean	Std. Deviation	Skewness		Kurtosis		α
				Stat.	SE	Stat.	SE	
Adequate supplies and materials are made available to me for usage in my classes and this contributes to my being present for work.	103	3.1262	1.34076	-.036	.238	-1.456	.472	.94
Class size has contributed to my being absent from work.	103	3.2233	1.36434	-.249	.238	-1.390	.472	.94
Collegial relations at the workplace influence my decision to be at work.	103	3.1845	1.18609	-.222	.238	-1.320	.472	.93
Concerns of all teachers are treated with the same sense of urgency by the principal.	103	2.9612	1.42059	.091	.238	-1.486	.472	.93
I am constantly overlooked for promotion at work.	103	3.1359	1.38655	-.248	.238	-1.413	.472	.93

	N	Mean	Std. Deviation	Skewness	Kurtosis	α
I am highly satisfied with the job and this influences my decision to be present for work.	103	3.0680	1.45698	-.043	.238	-1.543 .472 .95
I am motivated to be at work on a daily basis.	103	3.0971	1.36133	.011	.238	-1.461 .472 .93
I believe that regular attendance by teachers contributes to high levels of student achievement.	103	2.9417	1.44728	.123	.238	-1.521 .472 .93
I believe that teacher absenteeism contributes to poor student achievement.	103	3.0485	1.38888	-.021	.238	-1.438 .472 .87
I believe that teachers are given individualized support in their duties when needed.	103	3.0000	1.52753	.135	.238	-1.582 .472 .93
I believe that teachers are treated equally at the school by the principal.	103	2.9417	1.39203	.106	.238	-1.405 .472 .90

	N	Mean	Std. Deviation	Skewness		Kurtosis		α
I believe that teachers at the school are committed to the workplace and are therefore always at work.	103	2.9417	1.34183	.133	.238	-1.449	.472	.93
I believe that teachers encourage each other to be present for work.	103	2.9223	1.26560	.149	.238	-1.342	.472	.92
I believe that teachers support each other at the school.	103	2.9417	1.24322	.143	.238	-1.396	.472	.94
I believe that the principal encourages unity amongst staff.	103	3.0097	1.50486	.106	.238	-1.579	.472	.94
I believe there is a high quality in the infrastructure and facilities of the school.	103	3.1359	1.34346	.044	.238	-1.431	.472	.91
I feel a sense of commitment to the workplace and this influences my decision to attend work.	103	2.9903	1.42454	-.045	.238	-1.509	.472	.93

	N	Mean	Std. Deviation	Skewness	Kurtosis	α
I have a comfortable feeling within the school environment and am therefore present for work.	103	3.0388	1.42748	-.049	.238	-1.517 .472 .94
I have been absent from work due to the pressures of constant supervision for absent teachers.	103	3.1068	1.25176	-.328	.238	-1.322 .472 .91
I have exhausted most of my allocated sick days for the academic year.	103	3.4563	1.38463	-.552	.238	-1.134 .472 .68
I have high expectations from the job and this influences my decision to be present for work.	103	3.0485	1.43744	-.107	.238	-1.487 .472 .94
I perceive that there is a tolerance for absenteeism at the school.	103	3.1942	1.27616	-.229	.238	-1.345 .472 .92
I regularly schedule personal appointments during teaching time.	103	3.1748	1.35348	-.300	.238	-1.368 .472 .93

	N	Mean	Std. Deviation	Skewness	Kurtosis			α
I sometimes absent myself from work to take care of my sick children.	103	3.0680	1.24666	-.224	.238	-1.393	.472	.89
I sometimes use absenteeism as a means of retaliation against administration.	103	3.2136	1.25753	-.233	.238	-1.322	.472	.93
I take the sick days which I am allowed with full pay in a given year because they are available.	103	3.3592	1.36378	-.537	.238	-1.112	.472	.67
I value the position I now hold in the school.	103	3.0583	1.37074	-.060	.238	-1.465	.472	.94
Illness causes me to be absent from work more than once a week.	103	3.1942	1.23716	-.220	.238	-1.382	.472	.93
Members of staff are encouraged to express themselves freely.	103	2.9417	1.30478	.056	.238	-1.349	.472	.91
My ability to be present for work has been influenced by a particular day in the week.	103	3.2136	1.43247	-.324	.238	-1.407	.472	.92

	N	Mean	Std. Deviation	Skewness	Kurtosis	α
My ability to make or share in important decisions which directly impact on my teaching influences my decision to be present for school.	103	3.0777	1.26560	-.237	.238	-1.368 .472 .92
My absences are related to my perceived belief of teacher inequality in the workplace.	103	3.1262	1.32606	-.288	.238	-1.376 .472 .94
My absences have been influenced by seeing other teachers frequently absent from work.	103	3.2233	1.26748	-.225	.238	-1.331 .472 .91
Staff is encouraged by the principal to give feedback which is useful in identifying existing problems or school successes.	103	2.9515	1.39592	.132	.238	-1.482 .472 .94
The behaviour of the students influences my decision to be at work.	103	3.0874	1.30690	-.326	.238	-1.378 .472 .94

	N	Mean	Std. Deviation	Skewness		Kurtosis		α
The lack of clarity of rules and norms influences my decision to be absent from work.	103	3.1068	1.30544	-.309	.238	-1.370	.472	.94
The location of the school in the community influences my decision to be present for work.	103	3.1748	1.33157	-.302	.238	-1.355	.472	.93
The position I now hold is a determining factor in my being absent for work.	103	3.1165	1.30084	-.193	.238	-1.348	.472	.92
The principal holds high expectations of staff.	103	2.8835	1.40239	.103	.238	-1.491	.472	.94
The principal is actively involved in conflict management amongst staff.	103	3.0000	1.43486	.102	.238	-1.427	.472	.89
The principal maintains a trusting and professional relationship with all members of staff.	103	2.9709	1.42427	.114	.238	-1.499	.472	.94

	N	Mean	Std. Deviation	Skewness	Kurtosis	α		
The proximity of where I live to the school determines my ability to be present for work.	103	3.1553	1.29673	-.350	.238	-1.308	.472	.91
The school provides incentives to teachers for regular attendance.	103	3.6893	1.26048	-.948	.238	-.284	.472	.57
Transportation affects my ability to attend work.	103	3.1553	1.37739	-.308	.238	-1.386	.472	.92
Valid N (list wise)	103							

Appendix D

Student Questionnaire

Dear Student,

This questionnaire forms part of a Doctoral study which looks at 'Teacher Absenteeism and its Effect on Student Achievement at two secondary schools in Barbados'.

INSTRUCTIONS

- Please answer all questions
- Complete each question by circling the appropriate number
- All information gathered will be kept confidential
- Please do not write your name on the questionnaire
- The questionnaires will be distributed and collected on the same day of completion
- Please answer the questions as honestly as possible with the answer which best represents your opinion
- All information will be treated confidentially and will not be disclosed to any other parties except anonymously as part of my thesis
- You have the right to withdraw at any time

Thank you for your co-operation in the facilitation of this research.

W. S. Lewis

DATA COLLECTION INSTRUMENT

Biographical Information

- a) Fifth Year Student
- b) Fourth Year Student
- c) Third Year Student
- d) Second Year Student
- e) First Year Student

- Male
- Female

(Circle the statement that applies)

Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
1	2	3	4	5

Please answer the questions by placing a tick under the number in the column which best represents your opinion. See the rating scale above

The main causes of teacher absenteeism

		1	2	3	4	5
1	My classes are often affected by teacher absenteeism					
2	I absent myself from school due to regular teacher absenteeism					
3	I feel that I am being neglected by my teacher when he/she is absent					
4	Supervision is made for my classes when a teacher is absent					
5	The substitute teacher engages the class in meaningful activity during the period of supervision					
6	I believe that particular teachers are absent more often than others					
7	I continue with my studies during the absence of my teacher					

		1	2	3	4	5
8	I believe that there is a high level of teacher absenteeism at the school					
9	The teacher tries to make up for lost time by extending class time on his/her return to work					
10	I believe that negative student behaviour is escalated because of teacher absences					
11	I believe that my performance in class has deteriorated because of constant teacher absenteeism					
12	On return to school, my teacher gives the class a reason for being absent from work					
13	I believe that some of my teachers have been absent for many of the scheduled classes					
14	Students are given individualized support in their studies by their teachers					
15	The principal ensures that the emotional needs of the students are met					
16	Opportunities are made available whereby parents can be updated on their children's progress					
17	I believe that students maintain an orderly and purposeful climate at the school					
18	There is constant evaluation of the work of students					
19	I believe that student behaviour has contributed to teacher absenteeism					

1 2 3 4 5

- 20 The physical conditions of all classrooms at the school
 are conducive to learning
- 21 I believe that some teachers are lazy and do not like
 coming to school
- 22 I see myself as sometimes responsible for teachers
 absenting themselves from work
- 23 The teachers make classes interesting and so I am
 motivated to learn
- 24 The teacher is not able to effectively deliver the subject
 matter in class
- 25 Teacher absences is a hindrance to my academic
 achievement

26. Can you suggest any reasons which you believe might be contributing to
teacher absenteeism at the school?

.....

.....

Appendix E

Descriptive Statistics for Student Questionnaire for Schools A, B and C (N=2200)

	N	Mean	Std. Deviation	Skewness		Kurtosis α		
	Stat.	Stat.	Stat.	Stat.	SE	Stat.	SE	
I absent myself from school due to regular teacher absenteeism.	2200	3.189	1.137	-.179	.052	-1.46	.104	.83
I believe that my classes are often affected by teacher absenteeism.	2200	3.145	1.380	-.248	.052	-1.407	.104	.83
I believe that my performance in class has deteriorated because of constant teacher absenteeism	2200	3.153	1.295	-.134	.052	-1.420	.104	.83
I believe that particular teachers are absent more often than others.	2200	3.051	1.326	-.140	.052	-1.433	.104	.83
I believe that some teachers are lazy and do not like coming to school.	2200	3.105	1.380	-.150	.052	-1.451	.104	.82
I believe that the physical conditions of all classrooms at the school are conducive to learning	2200	3.182	1.306	-.078	.052	-1.460	.104	.82
I believe that there is a high level of teacher absenteeism at the	2200	3.123	1.385	-.152	.052	-1.454	.104	.83

school.

I continue with my studies during the absence of my teacher.	2200	2.734	1.341	.346	.052	-1.310	.104	.84
I feel that I am being neglected by my teachers when he/she is absent.	2200	3.213	1.391	-.259	.052	-1.404	.104	.83
I see myself as sometimes responsible for teachers absenting themselves from work.	2200	3.095	1.192	-.152	.052	-1.430	.104	.82
Negative student behaviour is escalated because of teacher absences.	2200	3.042	1.217	-.154	.052	-1.429	.104	.82
On return to school, my teacher gives the class a reason for being absent from work.	2200	2.860	1.298	.145	.052	-1.401	.104	.84
Opportunities are made available whereby parents can be updated on their children's progress.	2200	2.929	1.289	.142	.052	-1.418	.104	.84
Some of my teachers have been absent for many of the scheduled classes.	2200	3.117	1.193	-.133	.052	-1.434	.104	.83
Student behaviour has contributed to teacher	2200	3.118	1.341	-.124	.052	-1.437	.104	.82

absenteeism.

Students are given individualized support in their studies.	2200	2.902	1.427	.155	.052	-1.479	.104	.84
Students maintain an orderly and purposeful climate at the school.	2200	3.182	1.409	-.127	.052	-1.490	.104	.82
Supervision is made for my classes when a teacher is absent.	2200	2.833	1.338	.270	.052	-1.341	.104	.85
Teacher absences is a hindrance to my academic achievement.	2200	3.135	1.331	-.156	.052	-1.422	.104	.82
The principal ensures that the emotional needs of the students are met.	2200	3.147	1.199	-.067	.052	-1.463	.104	.82
The substitute teacher engages the class in meaningful activity during the period of supervision.	2200	2.923	1.386	.253	.052	-1.414	.104	.84
The teacher is not able to effectively deliver the subject matter in class.	2200	3.115	1.360	-.157	.052	-1.437	.104	.82
The teacher tries to make up for lost time by extending class time on his/her return to work.	2200	2.689	1.337	.344	.052	-1.284	.104	.84
The teachers make classes interesting and	2200	2.837	1.359	.084	.052	-1.467	.104	.84

so I am motivated to
learn.

There is constant evaluation of the work of students.	2200	2.976	1.297	.221	.052	-1.425	.104	.84
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Valid N (list wise)	2200
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Appendix F

Research Ethics and Data Protection Sub-Committee of the University of Durham U.K Approval

Durham University

School of Education

Research Ethics and Data Protection Monitoring Form

Research involving humans by all academic and related Staff and Students in the Department is subject to the standards set out in the Department Code of Practice on Research Ethics. The Sub-Committee will assess the research against the British Educational Research Association's *Revised Ethical Guidelines for Educational Research* (2004).

It is a requirement that prior to the commencement of all research that this form be completed and submitted to the Department's Research Ethics and Data Protection Sub-Committee. The Committee will be responsible for issuing certification that the research meets acceptable ethical standards and will, if necessary, require changes to the research methodology or reporting strategy.

A copy of the research proposal which details methods and reporting strategies must be attached and should be no longer than two typed A4 pages. In addition you should also attach any information and consent form (written in layperson's language) you plan to use. An example of a consent form is included at the end of the code of practice.

Please send the signed application form and proposal to the Secretary of the Ethics Advisory Committee (Sheena Smith, School of Education, tel. (0191) 334 8403, e-mail: Sheena.Smith@Durham.ac.uk). Returned applications must be either typed or word-processed and it would assist members if you could forward your form, once signed, to the Secretary as an e-mail attachment

Name: WENDY SHARON LEWIS Course: DOCTOR OF EDUCATION

Contact e-mail address: w.s.lewis@durham.ac.uk Supervisor: Dr. D WAUGH

Title of research project: TEACHER ABSENTEEISM IN SECONDARY SCHOOLS IN BARBADOS AND ITS IMPACT ON STUDENT ACHIEVEMENT.

Questionnaire

		YES	NO	
1.	Does your research involve living human subjects?	YES		IF NOT, GO TO DECLARATION AT END
2.	Does your research involve only the analysis of large, secondary and anonymised datasets?		NO	IF YES, GO TO DECLARATION AT END
3a	Will you give your informants a written summary of your research and its uses?	YES		If NO, please provide further details and go to 3b
3b	Will you give your informants a	YES		If NO, please provide further

	verbal summary of your research and its uses?			details
3c	Will you ask your informants to sign a consent form?	YES		If NO, please provide further details
4.	Does your research involve covert surveillance (for example, participant observation)?		NO	If YES, please provide further details.
5a	Will your information <i>automatically</i> be anonymised in your research?	YES		If NO, please provide further details and go to 5b
5b	IF NO Will you explicitly give <i>all</i> your informants the right to remain anonymous?	YES		If NO, why not?
6.	Will monitoring devices be used openly and only with the permission of informants?		NO	If NO, why not? I WILL NOT BE USING ANY MONITORING DEVICES.
7.	Will your informants be provided with a summary of your research findings?	YES		If NO, why not?
8.	Will your research be available to informants and the general public without restrictions placed by sponsoring authorities?	YES		If NO, please provide further details
9.	Have you considered the implications of your research intervention on your informants?	YES		Please provide full details. I will ensure that upfront participants are made aware that the findings of the research will be published and that they have the opportunity to withdraw from the research if they so desire. I will not be using the names of the participants on any of the documents and so they will remain anonymous throughout the study to ensure that they would not suffer in any way from the findings. This information will be told to each potential participant at the beginning of the study and they will be reminded again when the questionnaires are being distributed, as well as when the interviews are being conducted. To ensure that there is no chance of the identity of the informants being recognised, the interviews will not be tape recorded, they will only be recorded in the form of hand written notes. On the collection date of the questionnaires, they will be collected discreetly and no marking will be placed on them. The student participants will not be asked to identify any individual teacher but to give general comments, both on the questionnaire and during the interviews.
10.	Are there any other ethical issues arising from your research?	YES		If YES, please provide further details.

Further details

AS THE RESEARCH WILL BE CARRIED OUT AT TWO SCHOOLS, THE SAME PROCEDURE WILL BE FOLLOWED AT BOTH. BEFORE I START THE RESEARCH I WILL TAKE AN INTRODUCTORY LETTER TO THE PRINCIPALS OF THE TWO SCHOOLS INFORMING THEM OF THE PURPOSE OF MY RESEARCH AND REQUESTING PERMISSION TO USE THE SCHOOLS FOR THE RESEARCH. A SIMILAR LETTER WILL BE SENT TO THE MINISTRY OF EDUCATION TO GAIN PERMISSION. WHEN I HAVE GAINED PERMISSION, I WILL THEN OBTAIN CONSENT FROM THE TEACHER PARTICIPANTS ON A WRITTEN CONSENT FORM. THEY WILL BE GIVEN TWO DAYS TO DECIDE IF THEY WISH TO PARTICIPATE OR NOT AND WILL NOT BE FORCED TO PARTICIPATE IN THE STUDY.

IN THE CASE OF THE STUDENTS, PERMISSION WILL BE OBTAINED FROM THE TWO PRINCIPALS BEFORE THE STUDENTS ARE GIVEN THE QUESTIONNAIRES TO COMPLETE. IF REQUESTED BY THE SCHOOLS, I WILL OBTAIN PERMISSION FROM THE PARENTS BEFORE THE STUDENTS ARE ALLOWED TO PARTICIPATE.

AT ALL STAGES OF THE DATA COLLECTION FROM THE PARTICIPANTS, THEY WILL BE INFORMED OF WHY I AM COLLECTING IT AND HOW IT WILL BE USED. ALL INFORMATION COLLECTED WILL BE STORED IN A PRIVATE AND LOCKED CABINET AWAY FROM THE LOCATION OF THE RESEARCH.

Continuation sheet YES/NO (delete as applicable)

Declaration

I have read the Department's Code of Practice on Research Ethics and believe that my research complies fully with its precepts. I will not deviate from the methodology or reporting strategy without further permission from the Department's Research Ethics Committee.

Signed Date:

SUBMISSIONS WITHOUT A COPY OF THE RESEARCH PROPOSAL WILL NOT BE CONSIDERED.

Subject: FW: Ethical approval: Wendy Sharon Lewis
From: LEWIS W.S. (w.s.lewis@durham.ac.uk)
To: p55802002@yahoo.com;
Date: Monday, April 4, 2016 12:27 PM

From: SMITH J.C.
Sent: 21 February 2012 11:42
To: LEWIS W.S.
Cc: WAUGH D.G.; ED-PGTSTUDENTS E.
Subject: Ethical approval: Wendy Sharon Lewis

Dear Wendy

I am pleased to inform you that your application for ethical approval has been granted by the School of Education in respect of 'Teacher absenteeism in secondary schools in Barbados and its impact on student achievement'.

However, although approval has been given, the Committee has indicated that this study should not commence before you move into thesis phase of your degree.

May we take this opportunity to wish you good luck with your research.
Best wishes

Sheena Smith
Research Office
School of Education
Durham University

Tel: (0191) 334 8403
www.dur.ac.uk/education

Appendix G

Letter of Request to the Ministry of Education in Barbados for Permission to Conduct the
Research at School A and School B.

The Chief Education Officer
Ministry of Education and Human Resource Development
Dame Elsie Payne Complex, Constitution Road
St. Michael.

Dear Sir,

I am currently in the third year of a Doctoral programme in Education at the University of Durham, U.K, and am requesting permission to conduct a study on Teacher absenteeism at XXXX School and XXXX School. The study will involve the distribution of questionnaires and conducting interviews with selected students and teachers of both schools. An analysis of school documents pertaining to student performance in the final end of year examinations as well as the late and absences of the selected teachers will also be carried out.

The student sample of the study will comprise of six forms from each of the five year groups, and the teacher sample will involve those teachers of the core curriculum areas at the schools.

It is hoped that this request will be favourably considered.

Yours sincerely,

Wendy Lewis (Mrs)
Head of Fine Arts

XXXX School

Appendix H

Letter to the Principal of School A requesting permission to conduct the research.

No.3, xxxxxx, St. Philip, Barbados, BBxxxxxx

Wendy S. Lewis (Mrs) M.Ed., M.B.A, B.F.A, Cert. Ed. Tel: (246) xxxxxx

12th May, 2012

The Principal

XXXX School

XXXX

Dear Madam,

I am currently in the third year of a Doctoral programme in Education at the University of Durham, U.K and am requesting permission to conduct a study on Teacher absenteeism at your school. The study will involve the distribution of questionnaires to selected students and teachers of the school. The student sample will comprise of all forms from each of the five year groups. The teacher sample however, will involve those teachers of the core curriculum areas at the school. To cause minor disruption of classes, the student questionnaire will be distributed to the selected students during a scheduled class session.

I am also requesting data on teacher absences for the select teachers during the period September 2011 to June 2012. I am enclosing further information which can assist in the compilation of this data. I would like the individual number of teacher absences for those in the core subjects of English language, Social Studies, Mathematics, Spanish, and Integrated Science for the academic year September 2011 to June 2012, and any reasons given for their absences.

I would also need the marks of the selected teachers for the classes they taught in the particular year group during the last end of year examinations. No data is required for the fifth year teachers.

It is hoped that this request will be favourably considered.

Yours sincerely,

Wendy Lewis (Mrs)

Appendix I

Letter to Principal of School B, requesting permission to conduct the study at the school.

XXX

XXXXXXX

XX XXXXX.

21st June, 2012

The Principal

XXXX School

XXXX

Dear Sir,

Further to my request for data on teacher absences and their student marks, I am enclosing further information which can assist in the compilation of this data. I would like the individual number of teacher absences for those in the core subjects of English language, Social Studies, Mathematics, Spanish, and Integrated Science for the academic year September 2011 to June 2012, in the following categories of :-Uncertified Illness; Certified Illness, School Business; Ministry/CXC; Appointment; Study Leave; Tour; Late.

I would also need the marks of the selected teachers for the classes they taught in the particular year group.

Yours sincerely,

Wendy Lewis (Mrs)

Appendix J

Second letter to the Ministry of Education in Barbados requesting permission to conduct the study at the third school.

20th August, 2012

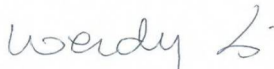
**The Chief Education Officer
Ministry of Education and Human Resource Development
Dame Elsie Payne Complex
Constitution Road,
St. Michael.**

Dear Sir,

I have recently requested and have been given permission by you to conduct a study on Teacher absenteeism at the Schools. I am now seeking further permission to include a third school in the study on the advice of the University of Durham, U.K. As the Secondary School is within the zone, I am requesting permission to include this school as the third school.

It is hoped that this request will be favourably considered.

Yours sincerely,



Wendy Lewis (Mrs)

Appendix K**CHIEF EDUCATION OFFICER**

MINISTRY OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT

Fax: (246) 436-2411
Tel. No.: (246) 430-2709
Ref. No.: CH



ELSIE PAYNE COMPLEX
CONSTITUTION ROAD
ST. MICHAEL, BB11124

28th August, 2012

Mrs. Wendy Lewis

Dear Mrs. Lewis

I acknowledge receipt of your letter dated 20th August, 2012 in which you are seeking permission to include a third school to conduct your study on Teacher Absenteeism.

It is noted that you were granted permission by the Ministry of Education and Human Resource Development to distribute questionnaires and conduct interviews with selected teachers and students of [redacted]

This is to inform you that the Ministry has granted your request to include [redacted] School as a third school and has, therefore, given permission for you to conduct research at that School.

Yours sincerely

Laurie O. King
Chief Education Officer

Appendix L

Letter to the Principal of School C Requesting Permission to Conduct the Study

At School C

No.3,, Barbados, BBxxxx

Wendy S. Lewis (Mrs) M.Ed., M.B.A, B.F.A, Cert. Ed. Tel: (246) 416 4425

29th August, 2012

The Acting Principal

XXXX School

XXXX

Dear Sir,

I am requesting permission to conduct a study on Teacher absenteeism at the XXXX Secondary School. The study will involve the distribution of questionnaires to selected students and teachers of the school. The student sample will comprise all of the forms from each of the five year groups. The teacher sample however, will involve those teachers of the core curriculum areas at the school. To cause minor disruption of classes, the student questionnaire will be distributed to the students during a scheduled class session.

I am also requesting data on teacher absences for the select teachers during the period September 2011 to June 2012. I am enclosing further information which can assist in the compilation of this data. I would like the individual number of teacher absences for those in the core subjects of

English language, Social Studies, Mathematics, Spanish, and Integrated Science for the academic year September 2011 to June 2012, and any reasons given for their absences.

I would also need the marks of the selected teachers for the classes they taught in the particular year group during the last end of year examinations. No data is required for the fifth year teachers.

It is hoped that this request will be favourably considered.

Yours sincerely,

Wendy Lewis (Mrs)

Appendix M

Letter of consent from parents

XXXXXX

14th May, 2012

Dear Parent/Guardian,

I am requesting permission for your child/ward to be a part of a study on teacher absenteeism and its perceived effect on student achievement at the school. The study will involve the distribution of questionnaires to selected students of the school who are being taught the core subject areas.

The questionnaire will be distributed to the students during a scheduled class session, and it will be completed anonymously. Therefore no student can be identified from the questionnaire. The information gathered will be used to devise strategies to enhance the level of student achievement at the school.

If you give consent for your child/ward to be a part of the process, please fill out the form below and return it to the school to Mrs Wendy Lewis, Head of Fine Arts, by the 16th May, 2012. I look forward to your response.

Yours sincerely,

.....

Wendy Lewis (Mrs)

Head of Fine Arts

XXXXXXXXX School

I.....give/do not give consent for my child/ward of

Formto be a part of the study by completing the questionnaire.

.....

Signature

.....

Date

Appendix N

Pattern Matrix of the Teacher Questionnaire for Schools A, B and C using a Promax Rotation

Pattern Matrix

	Components				h^2
	1	2	3	4	
Class size has contributed to my being absent from work.	.95				.94
My ability to be present for work has been influenced by a particular day in the week.	.92				.87
My absences are related to my perceived belief of teacher inequality in the workplace.	.90				.91
The lack of clarity of rules and norms influences my decision to be absent from work.	.90				.90
I regularly schedule personal appointments during teaching time.	.89				.89
I sometimes use absenteeism as a means of retaliation against administration.	.89				.90
The location of the school in the community influences my decision to be present for work.	.89				.89
The position I now hold is a determining factor in my being absent for work.	.88				.87
Transportation affects my ability to attend work.	.87				.88
I am constantly overlooked for promotion at work.	.87				.89
My absences have been influenced by seeing other teachers frequently absent from work.	.87				.86
The behaviour of the students influences my decision to be at work.	.87				.89
Collegial relations at the workplace influence my decision to be at work.	.86				.88
Illness causes me to be absent from work more than once a week.	.85				.88
I perceive that there is a tolerance for absenteeism at the school.	.84				.87

Pattern Matrix

	Components				<i>h²</i>
	1	2	3	4	
The proximity of where I live to the school determines my ability to be present for work.	.84				.85
I have been absent from work due to the pressures of constant supervision for absent teachers.	.81				.86
I sometimes absent myself from work to take care of my sick children.	.77				.82
My ability to make or share in important decisions which directly impact on my teaching influences my decision to be present for school.	.75				.87
The principal is actively involved in conflict management amongst staff.		.89			.83
I believe that teachers are treated equally at the school by the principal.		.86			.84
I believe that teachers support each other at the school.		.85			.91
The principal holds high expectations of staff.		.85			.91
Staff is encouraged by the principal to give feedback which is useful in identifying existing problems or school successes.		.84			.91
I believe that teachers are given individualized support in their duties when needed.		.81			.88
I believe that teachers encourage each other to be present for work.		.81			.88
Concerns of all teachers are treated with the same sense of urgency by the principal.		.81			.89
I believe that regular attendance by teachers contributes to high levels of student achievement.		.80			.90
I believe that teachers at the school are committed to the workplace and are therefore always at work.		.79			.90
The principal maintains a trusting and professional relationship with all members of staff.		.76			.90
Members of staff are encouraged to express themselves freely.		.75			.86

Pattern Matrix

	Components				<i>h²</i>
	1	2	3	4	
I believe that the principal encourages unity amongst staff.		.73			.90
I have high expectations from the job and this influences my decision to be present for work.			.86		.91
I have a comfortable feeling within the school environment and am therefore present for work.			.85		.90
Adequate supplies and materials are made available to me for usage in my classes and this contributes to my being present for work.			.85		.91
I value the position I now hold in the school.			.83		.92
I am highly satisfied with the job and this influences my decision to be present for work.			.82		.93
I believe there is a high quality in the infrastructure and facilities of the school.			.82		.87
I feel a sense of commitment to the workplace and this influences my decision to attend work.			.79		.90
I am motivated to be at work on a daily basis.			.73		.89
I believe that teacher absenteeism contributes to poor student achievement.			.72		.81
I have exhausted most of my allocated sick days for the academic year.				.85	.75
I take the sick days which I am allowed with full pay in a given year because they are available.				.80	.73
The school provides incentives to teachers for regular attendance.				.79	.65

Extraction Method: Principal Component Analysis.

Rotation Method: Promax with Kaiser Normalization.

Appendix O

Pattern Matrix for the Student Questionnaire

	1	2	3	A
Student behaviour has contributed to teacher absenteeism.	.95			.82
The principal ensures that the emotional needs of the students are met.	.95			.82
Students maintain an orderly and purposeful climate at the school.	.94			.82
I see myself as sometimes responsible for teachers absenting themselves from work.	.94			.82
I believe that the physical conditions of all classrooms at the school are conducive to learning	.94			.82
Negative student behaviour is escalated because of teacher absences.	.93			.82
The teacher is not able to effectively deliver the subject matter in class.	.68			.82
Teacher absences is a	.51	.50		.82

hindrance to my
academic achievement.

I believe that there is a high level of teacher absenteeism at the school.	.93	.83
---	-----	-----

Some of my teachers have been absent for many of the scheduled classes.	.92	.83
--	-----	-----

I believe that particular teachers are absent more often than others.	.91	.83
---	-----	-----

I believe that my performance in class has deteriorated because of constant teacher absenteeism	.91	.83
---	-----	-----

I believe that my classes are often affected by teacher absenteeism.	.91	.83
--	-----	-----

I absent myself from school due to regular teacher absenteeism.	.89	.83
---	-----	-----

I feel that I am being neglected by my teachers when he/she is absent.	.87	.83
--	-----	-----

Students are given individualized support in their studies.	.89	.84
---	-----	-----

There is constant	.89	.84
-------------------	-----	-----

evaluation of the
work of students.

The teachers make classes interesting and so I am motivated to learn.	.85	.84
--	-----	-----

Opportunities are made available whereby parents can be updated on their children's progress.	.84	.84
---	-----	-----

On return to school, my teacher gives the class a reason for being absent from work.	.79	.84
---	-----	-----

The substitute teacher engages the class in meaningful activity during the period of supervision.	.78	.84
---	-----	-----

I continue with my studies during the absence of my teacher.	.77	.84
--	-----	-----

The teacher tries to make up for lost time by extending class time on his/her return to work.	.73	.84
--	-----	-----

Supervision is made for my classes when a teacher is absent.	.71	.85
--	-----	-----

Appendix P

Reasons for Absences as advanced by teachers at School A and School C

SCHOOL A

- Severe illness
- Professional appointment at the Ministry of Education
- Civic or legal obligations
- Emergencies
- Important appointment
- Illness
- Daughter is sick and no one else can be at home to take care of her
- Frustration
- Extreme weather conditions
- Health reasons
- Dental appointment
- Attending workshops at the Ministry of Education
- Emergencies at home
- Unavoidable appointment, mainly medical

SCHOOL C

- Serious illness
- Appointment with the Ministry of Education
- Court
- Emergencies
- Scheduled appointments
- Personal illness
- Children ill and no one to keep them
- Being in an accident
- Serious personal issues
- Medical issue
- Dental appointment
- Workshops for teachers by the Ministry of Education
- Family emergencies
- Unavoidable circumstances

SCHOOL A

- Exams
- School or department tour
- School related duties
- The funeral of close family or church member
- Personal Business
- Fatigue
- Illness that is contagious only
- Disillusionment
- Sick leave
- Attending a union meeting
- Representing the school off the school premises.
- Car problems
- No water
- Toothache
- Unable to catch a bus

SCHOOL C

- Personal classes
- School outing
- Administration
- Participation in another activity
- Business
- Closure of child's school
- Feeling ill and not wanting to spread the sickness
- Sick leave
- Attending a union meeting
- Representing the school off location
- Car problems

Appendix Q

Descriptive Statistics and Regression Coefficients for English, Integrated Science, Math, Social Studies and Spanish for School A

Variables	B	SE B	β	t	Partial r
English					
	45.599	30.057			
	-5.020	2.360	-.509	-2.127	-.448
Personal/ Circumstantial Factors					
Job Satisfaction and Motivation	-5.413	1.906	-.657	-2.840	-.556
Policy and Procedural Factors	2.752	1.685	.336	1.634	.359
Teacher Experience	-.265	1.342	-.032	-.197	-.046
Teacher Absence for English, School A	1.200	.269	.766	4.455	.724
R ²	.59	.			
Adjusted R ²	.48				
Integrated Science					
	97.344	46.057			
Personal/ Circumstantial Factors	-2.020	3.727	-.171	-.542	-.143
Job Satisfaction and Motivation	7.509	2.932	.707	2.562	.565
Policy and Procedural Factors	4.698	2.881	.450	1.631	.400
Teacher Experience	-1.844	2.034	-.177	-.907	-.236
Teacher Absence for Integrated Science, School A	-.717	.173	.797	-4.136	-.742
R ²	.67				
Adjusted R ²	.55				

Variables	B	SE B	β	t	Partial <i>r</i>
Math					
	49.366	26.047			
Personal/ Circumstantial Factors	7.492	2.265	.817	3.308	.605
Job Satisfaction and Motivation	4.215	1.695	.551	2.487	.496
Policy and Procedural Factors	-4.117	1.558	-.542	-2.642	-.518
Teacher Experience	.113	1.180	.015	.096	.022
Teacher Absences for Math, School A	-.817	.192	-.697	-4.248	-.698
R ²	.58				
Adjusted R ²	.47				
Social Studies					
	32.725	27.899			
Personal/ Circumstantial Factors	5.991	2.357	.666	2.541	.514
Job Satisfaction and Motivation	4.292	1.838	.571	2.335	.482
Policy and Procedural Factors	.678	1.567	.091	.433	.102
Teacher Experience	1.347	1.236	.180	1.089	.249
Teacher Absences for Social Studies, School A	-1.901	.414	-.842	-4.588	-.734
R ²	.58				
Adjusted R ²	.46				

Variables	B	SE B	β	t	Partial <i>r</i>
Spanish					
	67.905	50.728			
Personal/ Circumstantial Factors	-4.210	4.430	-.365	-.950	-.246
Job Satisfaction and Motivation	1.375	3.292	.133	.418	.111
Policy and Procedural Factors	1.798	3.238	.177	.555	.147
Teacher Experience	-.301	2.232	-.030	-.135	-.036
Teacher Absences for Spanish, School A	-1.197	.430	-.626	-2.784	-.597
R ²	.56				
Adjusted R ²	.40				

Appendix R**Descriptive Statistics and Regression Coefficients for English, Integrated Science, Math, Social Studies and Spanish for School C****School C**

Variables	B	SE B	β	t	Partial <i>r</i>
English					
	32.977	27.411			
Personal/ Circumstantial Factors	-8.460	2.240	-.835	-3.777	-.665
Job Satisfaction and Motivation	-6.710	1.850	-.793	-3.627	-.650
Policy and Procedural Factors	-.160	1.569	-.019	-.102	-.024
Teacher Experience	.854	1.226	.101	.696	.162
Teacher Absences for English, School C	-.147	.113	-.209	-1.297	-.292
R ²	.67				
Adjusted R ²	.58				
Integrated Science					
	59.051	34,876			
Personal/ Circumstantial Factors	8.199	2.932	.680	2.796	.550
Job Satisfaction and Motivation	2.804	2.420	.278	1.159	.263
Policy and Procedural Factors	-2.482	1.994	-.248	-1.245	-.282
Teacher Experience	-.620	1.567	-.062	-.396	-.093
Teacher Absences for Integrated Science, School C	-.656	..142	-.819	-4.611	-.736
R ²	.62				
Adjusted R ²	.52				

Variables	B	SE B	β	t	Partial <i>r</i>
Math					
	30.695	25.152			
Personal/ Circumstantial Factors	-2.705	2.345	-.306	-1.153	-.262
Job Satisfaction and Motivation	2.266	1.814	.307	-1.249	.282
Policy and Procedural Factors	-.743	1.456	-.101	-.510	-.119
Teacher Experience	.486	1.144	.066	.425	.100
Teacher Absences for Math, School C	-.325	.119	-.510	-2.737	-.542
R ²	.62				
Adjusted R ²	.52				
Social Studies					
	51.620	24.167			
Personal/ Circumstantial Factors	1.615	2.015	.152	.802	.186
Job Satisfaction and Motivation	4.074	1.594	.458	2.555	.516
Policy and Procedural Factors	1.944	1.363	.220	1.426	.319
Teacher Experience	-.755	1.079	-.085	-.700	-.163
Teacher Absences for Social Studies, School C	.641	.131	.652	4.877	.754
R ²	.77				
Adjusted R ²	.71				
Spanish					
	65.163	53.266			
Personal/ Circumstantial Factors	-5.830	4.998	-.418	-1.167	-.308

Variables	B	SE B	β	t	Partial <i>r</i>
Job Satisfaction and Motivation	3.256	4.575	.249	.712	.194
Policy and Procedural Factors	4.565	3.705	.370	1.232	.323
Teacher Experience	-.358	2.402	-.030	-.149	-.041
Teacher Absences for Spanish School C	-.419	.114	-.655	-3.661	-.713
R ²	.64				
Adjusted R ²	.50				

Appendix S

Student Exam Averages for the core subjects of English, Math, Integrated Science, Social Studies and Spanish at School A and School C

English	Integrated Science	Math	Social Studies	Spanish
55	31	48	63	44
51	41	40	69	27
68	34	37	58	41
61	36	43	75	36
59	43	42	55	38
56	39	44	67	40
73	45	46	60	38
51	44	34	48	39
75	40	38	69	48
57	36	47	72	43
73	35	45	57	47
55	32	33	75	55
53	37	38	50	42
65	37	33	48	45
76	39	41	60	51
63	51	49	67	35
56	45	51	55	56
59	49	50	44	39
49	47	42	49	52

English	Integrated Science	Math	Social Studies	Spanish
48	49	32	51	53
56	33	31	46	40
72	46	41	44	34
67	50	35	53	38
52	48	36	72	53
53	35	54	50	47
47	30	59	45	46
54	40	54	30	42
37	23	51	14	29
42	34	53	28	34
53	41	54	22	44
41	32	46	26	32