

**EFFECT OF SCHOOL PHYSICAL ENVIRONMENT ON PSYCHOSOCIAL
WELLBEING BETWEEN PUPILS IN PUBLIC AND PRIVATE PRIMARY SCHOOLS
IN KIAMBU COUNTY, KENYA**

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Abstract

The study examined and compared the effect of school physical environment on psychosocial wellbeing between pupils in public and private primary schools. The target population was 260,459 comprising of head teachers, teachers and pupils in Kiambu County in Kenya. Causal-Comparative research design was employed. A sample size of 384 participants was drawn from the population using stratified, simple random and purposive sampling procedures. The Statistical Package for Social Sciences (SPSS) version 21.0 was used to analyze the data. Descriptive statistics were used to establish differences between public and private schools in terms of availability of adequate and quality physical facilities and the resultant psychosocial wellbeing of pupils. The findings of the study revealed that there was a significant difference between private and public primary schools in terms of physical environment. Public schools had better school physical environment than private schools that positively impacted on psychosocial wellbeing of pupils. It was recommended that the Ministry of Education, parents and proprietors of primary schools need to invest in quality physical facilities for both public and private schools. This would foster appropriate socialization of pupils and create conducive emotional environment for psychosocial wellbeing of the pupils.

Keywords: Physical Environment, Psychosocial Wellbeing, Primary School

1. Introduction

School environment is a micro-system that encompasses physical, academic, social and affective environment. It is a convergence of factors that are psychological, sociological and educational in nature. The multidisciplinary nature of the four components of the school environment determines the quality of education offered in schools. Each component has a specific role to play in the determination of educational outcomes. School physical environment establishes an appropriate emotional environment that impinges on psychosocial wellbeing of the pupils thus facilitating effective teaching and learning. The school physical environment encompasses the school building and its contents, the land on which the school is located and the areas surrounding it. School physical environment also describes the ambient noise, lighting, quality of indoor air, comfort in school's buildings and facilities (Lezotte, 2001). School physical environment is also characterized by the level of upkeep, thermal comfort of the school and its location in the community (Ahman, Lundin, Musabasic & Soderman, 2003). A study by Alexander (2009) on international comparisons in primary education indicates that lack of physical facilities and learning resources greatly hinder educational progress in many developing countries in Africa, Asia and Latin America. The school physical architecture determines the efficiency and effectiveness of the implementation of the curriculum in relation to the comfort of teachers and learners. School physical environment is also related to teacher's levels of absenteeism, effort, effectiveness in the classroom, morale and job satisfaction. Physical characteristics of the school can affect learners emotionally since environmental features such as temperature, lighting and noise level can affect the morale of the learners (Evans & Stecker, 2004). Poorly lit and unventilated classrooms could dampen the morale of learners by causing discomfort and stress.

Weinstein (2000) conducted a study on modification of student behavior in a second and third grade open classroom before and after a change in the physical design. The study tested the general hypothesis that minor changes in physical setting could produce predictable and desirable changes in student behaviour. The experimenter observed for two weeks, using a time sampling instrument completed by the students. The activities and locations of the students were recorded on the floor plan of the room. Design changes were then made with specific behavioral goals in mind and a two week post change observation period begun. In most cases, the desired behavioral changes were produced. Time series analysis indicated that the desired behavioural changes were statistically significant. According to Lezotte (2001) physical facilities are supposed to be clean, attractive and kept in good repair. Unclean and unlit school natural environment is oppressive and a threat to health of the learners. Airborne diseases such as mumps, diphtheria, pneumonia, tuberculosis among others spread fast among school children in overcrowded classrooms where indoor air is damp (Clark, 2002). Spacious classrooms allow for good circulation of oxygenated air and access to the learners by teachers. According to Sick Building Syndrome acoustics, air quality and temperature of facilities affect the stress levels and physical health of building occupants. Unsanitary conditions attract insects, vermin and irritants and allergens found in dust and dirt that can have negative effect on health and academic performance of children. Indoor air pollutants and allergens related to poor cleaning contribute to increased environmental stress, respiratory and asthmatic symptoms among children (Phillips, 2014). According to Calman (2010) in the study on exploring the underlying traits of high performing schools, small class size and spacious classroom allows the teacher to access all the

students in order to solve discipline problems. Crowded classroom conditions limit the amount of time teachers can spend on innovative teaching methods and increase the likelihood for them to suffer stress that can even lead to burnout (Phillips, 2014). Studies in different geographic areas have shown a link between facilities and teacher's tenure (Zippin, 2004). Teachers are more likely to stay in school if school physical environment is good.

Personality of a child has physical component which entails bodily physical fitness and health both of which are nurtured by school's physical environment (Robert, Kleiber & Duba, 2004). School children need play and physical exercise. According to Koech (2007) exercises improve emotional stability and merit fitness. Exercises relieve stress in several ways. According to (Tomporowsia, Calteline, Milles & Naglieri, 2008) firstly, cardiovascular workouts stimulate brain chemicals that foster growth of nerve cells. Secondly, exercise increases the activity of serotonin and norepinephrine. Thirdly, a raised heart rate releases endorphins and a hormone known as ANP, which reduces pain, induces euphoria and helps to control brain's responses to stress and anxiety. According to Persons Environment Fit concept propounded by French, Rodgers and Cobb and cited by Hepburn and Brown (2001) every individual tries to cope with the immediate environment. According to Personal Environment Fit, inability to cope with the immediate environment triggers anxiety which translates to stress when it becomes excessive. Emotional and physical stress occurs when there is mismatch between a person and the immediate environment. Stress results from an imbalance between environmental demands and personal inadequacies to meet those demands (Kagure, 2005). A pupil who is unable to cope with demands of the school is stressed. Physical stress is greatly relieved by exercise whereas emotional stress by internally or externally induced psychotherapy (Abidin & Robinson, 2002). It is important to relies that school physical environment interacts with the students' psychosocial wellbeing.

Sociological and psychological researches have shown that children socialize a great deal through play (Clark, 2002; Fieldman, 2007). Hallal, Andersen, Bull, Guthold, Haskell, and Ekelund (2012) conducted a study on interactive effects of school physical facilities on students' social capital. Students answered questions on amount of time they spent in Moderate to Vigorous Physical Activity at school and schools' social capital and data were analyzed using multi-level regression. The results indicated that the school physical environment was positively associated with Moderate to Vigorous Physical Activity levels at school ($B=0.040$, $P<.005$). The association between the social capital and Moderate to Vigorous Physical Activity levels was also positive ($B=0.74$, $P<.001$). Schools are an important setting for Physical Activity for youth who spend large amounts of time there due to the fact that school based physical activity opportunities are accessible to all students. Increasing rates of Physical Activity levels among schools is important for this is linked to decrease in chronic disease such as obesity, metabolic syndrome and high blood pressure as well as increase in self-esteem. Schools with playgrounds and other recreational facilities provide pupils with opportunities for social interaction outside the confines of a classroom whereas the sports psychologists emphasize the importance of play in terms of relieving body stress and improving mental and physical health. Studies have shown a relationship between physical learning environment and student behavior. Broken windows theory states that physical disorder such as broken windows and run-down buildings lead to bad behavior and disorderly conduct (Zippin, 2004). Dilapidated school buildings contribute to

teachers’ and learners’ despair and frustration while building renovations produces a renewed sense of hope and commitment (Weinstein, 2000). This study sought to investigate the effect of school physical environment on psychosocial wellbeing between pupils in public and private primary schools in Kiambu County in Kenya.

2. Objectives

The main objective of this study was to determine the effect of school physical environment on psychosocial wellbeing between public and private primary schools in Kiambu County in Kenya.

3. Methodology

As a comparative study between public and private primary schools, the study employed Causal-Comparative research design. Primary data was collected using questionnaires and interview schedule. Qualitative data from interviews allowed for in-depth understanding of the school physical environment and the effect on pupil’s psychosocial wellbeing. The study targeted a school population of 260,459 comprising of head teachers, teachers and pupils in Kiambu County. There were almost equal numbers of public and private schools (496, 438). A sample size of 384 of respondents was drawn from the population and consisted of 20 head teachers, 20 class teachers, 342 pupils and 2 members of School Board of Management using stratified, simple random and purposive sampling techniques. The Statistical Package for Social Sciences (SPSS) version 21.0 was employed to analyze the data using descriptive statistics.

4. Results and Discussion

The study compared the school physical environment of public schools to that of private schools in terms of availability of school physical facilities and psychosocial wellbeing of pupils.

Table 1: Interpretation of Descriptive Statistics by Likert-scale

Mean Scores	Interpretation	Abbreviation
1.0-1.79	Strongly Disagree	(SD)
1.80-2.59	Disagree	(D)
2.60-3.39	Undecided	(UN)
3.40-4.19	Agree	(A)
4.20-5.00	Strongly Agree	(SA)

Table 1 shows the cut-off points and the interpretations of statistical results. Mean scores of analyzed data and interpretations on effect of school physical environment on psychosocial wellbeing between pupils in public and private schools are presented in Table 2.

Table 2: Effect of School Physical Environment on Psychosocial Wellbeing between Pupils in Public and Private Primary Schools

Statements	School	Head Teachers’ Mean and Interpretation	Class teachers’ Mean and Interpretation	Pupils’ Mean and Interpretation
The school has playground	Public	4.44 SA	4.70 SA	3.98 A

which enables me to mix and talk freely with my colleagues	Private	4.60	SA	4.60	SA	3.63	A
School games excite and make me happy	Public	4.89	SA	4.90	SA	4.59	SA
	Private	4.80	SA	4.70	SA	4.21	SA
I find good players very confident while in the field and being admired by other pupils	Public	4.89	SA	4.80	SA	3.96	A
	Private	4.50	SA	4.40	SA	3.57	A
I enjoy school games by watching	Public	4.22	SA	4.00	A	3.31	UN
	Private	3.80	A	3.56	A	3.40	A
Recreation facilities in the school make my body and mind relax	Public	4.46	SA	4.30	SA	2.29	D
	Private	4.40	SA	4.33	SA	2.90	UN
School games have provided me with opportunity to acquire friends	Public	4.56	SA	4.80	SA	4.24	SA
	Private	4.50	SA	4.38	SA	3.41	A

The results in Table 2 indicate that playgrounds which are associated with play provided opportunities for peer interaction for promotion of psychosocial wellbeing of pupils. Head teachers and class teachers in public schools considered playgrounds as more important avenues of socialization than those in private schools by head teachers and class teachers registering means of 4.44 and 4.70 respectively, meaning strongly agree and pupils 3.98 which implied agree and in private schools 4.60 by head teachers and class teachers which meant strongly agree and 3.63 by pupils implying agree. This view has been expressed and supported in studies by Clark (2002), Koech (2007) and Fieldman (2007) that outdoor socialization of pupils leads to development of social skills and psychosocial wellbeing by temporary dissipating personal concerns, anxieties and fears during involvement in games and other sorts of play. The same view is also emphasized in studies by Tomporowsia, Caltine, Milles & Naglieri (2008).

On the item “Recreational facilities in the school make my body and mind relax,” the head teachers, class teachers and pupils in public schools registered means of 4.56 implying strongly agree and 4.30 which meant strongly agree and 2.29 implying disagree respectively whereas their counter parts in private schools registered mean scores of 4.4 meaning strongly agree and 4.33 also meaning strongly agree and 2.90 which implied undecided respectively. According to the results, all head teachers and class teachers in both categories of schools strongly accepted that recreational facilities made pupils relax their bodies and mind. This markedly differed with responses of the pupils who registered mean scores of 2.29 which meant disagree in public schools and 2.90 implying undecided in private schools due the fact many of sampled schools did not have recreational facilities. The head teachers and class teachers unlike the pupils simply expressed the general view of the effect of recreational facilities on psychosocial wellbeing of pupils regardless whether the school had the facilities or not. The responses of pupils in public schools imply that there were very limited recreational facilities whereas there was a sizeable

number in private schools. This is collaborated by data obtained through open-ended questions in the questionnaires and responses obtained through interview schedule. However, this concurs with the view expressed in a study by Abidin and Robinson (2002) on stress, biases and professionalism of teachers that points out that physical stress is greatly relieved by physical exercise whereas emotional stress by internally or externally induced psychotherapy.

As regards the item, “School games have provided me with opportunity to acquire friends,” class teachers had a mean of 4.80 meaning strongly agree and pupils’ mean of 4.24 implying strongly agree in public schools which strongly expressed the view that school games provided opportunities for development of friendships among pupils unlike in private schools where class teachers and pupils had expressed a weak opinion by registering mean scores of 4.38 meaning agree and 3.41 implying undecided respectively. This was an indication that pupils in private schools did not actively participate in sports although raw data indicates they had a wider range of games than public schools that included basketball, table tennis, lawn tennis apart from conventional sports such as football, netball, volleyball and athletics. This seems to confirm the findings of the study by Koskei (2004) on implementation of physical education as curricular subject in Kenyan schools in relation to physical fitness and socialization of pupils that concluded that games and sports are more often practiced in public primary schools than in private schools. This was also consistent with view by Kola (2017) that schools have denied pupils play in favour of academics and lauded the move by the Ministry of Education for recognizing the importance of play in children’s lives in the new 2-6-3-3 education system of Kenya during the World Play Day organized and coordinated by International Play Association. The expressed view by respondents that through games pupils develop friendships is emphasized in a study by Ndani (2010) on factors influencing early childhood development in Thika District in Kiambu County that found out that friendship fosters a child’s sense of group belonging and begins to facilitate acquisition of empathy skills essential for psychosocial adjustment later in life.

Results of statistical comparison of the effect of the school physical environment on psychosocial wellbeing between pupils in public and private primary schools are shown in Table 3.

Table 3: Effect School Physical Environment on Psychosocial Wellbeing between Pupils in Public and Private Primary Schools According to Group Statistics

Schools	n	Mean	Std. Deviation	Std. Error Mean
Public	192	3.8323	.77918	.05609
Private	188	3.4617	1.01833	.07368

Table 3 indicates that public schools had overall mean of 3.8323 (Agree) and private schools had mean of 3.4617 (agree) according to group statistics. Statistical difference between public and private schools is an indication that different school physical environment impacted differently on psychosocial wellbeing of pupils. Overall, the school physical environment had greater impact on psychosocial wellbeing of pupils in public schools than in private schools. All public schools had large playgrounds which were non-existent in many private schools that enabled pupils to intensely interact in sports. Much of the literature on early childhood

emphasizes more physical play than cognitive teacher-pupil interaction whereas that on middle childhood the emphasis is on both. Children in early childhood are provided with physical facilities such as swings, balls, dolls and other recreational facilities in in-door and open spaces (Clark, 2002). Some elementary schools in Kenya and many parts of the world provide tuition in storied buildings and children are only engaged in indoor exercises with limited space for core sports like football, netball, basketball and athletics.

5. Conclusion

The study reaffirmed the importance of school environment in determining the psychosocial wellbeing of pupils. The researcher, on the basis of the empirical evidence adduced concluded that availability of adequate and quality school physical facilities positively impact on psychosocial wellbeing of pupils. Pupils' psychosocial wellbeing of pupils in the school was enhanced by decent, clean, safe, secure and comfortable school infrastructure. Public schools had superior school physical environment to private schools that impacted more positively on psychosocial wellbeing on the pupils.

6. Recommendation

Based on the findings of this study, the following recommendations were made:

- i. The supervisory powers of the officers of the Directorate of Quality Assurance and Standards (DQAS) need to be enhanced and extended to cover private schools in order to enforce policy guidelines and regulations, monitor and assess the methodology of curriculum implementation especially physical education that is often violated by teachers in a bid to improve the school regional and national mean score.
- ii. Children in early childhood need to be provided with physical facilities such as swings, balls, dolls and other recreational facilities in in-door and open spaces. Some elementary schools in Kenya provide tuition in storied buildings and children are only engaged in indoor exercises with limited space for core sports like football, netball, basketball and athletics.
- iii. Policy makers in education, parents and proprietors need to invest heavily in physical facilities of primary schools to ensure necessary physical comfort, security, cleanliness, play and socialization which will result to appropriate school emotional environment.

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