

# School Physical Environmental Factors Responsible for Stressful Experience among Teachers in Kenyan Special Primary Schools

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**Abstract** Stress is a major global health challenge affecting the well-being of service providers especially those working in the human service sectors like: teachers, health care providers and media specialists. Specifically the study determined school physical environmental factors responsible for stressful experience among teachers in special primary schools. The study employed descriptive research design. The target population was 138 teachers in special primary schools and 4 head teachers. The study used self-administered questionnaires to collect quantitative data from 138 teachers. Qualitative data was collected from the head teachers using interview schedules. Saturated sampling was used to select the respondents. The instruments were validated by experts' judgments by University lecturers in the Department of Psychology and Educational Foundations while reliability was estimated by use of Cronbach Alpha method for internal consistency. The questionnaire yielded a reliability coefficient of 0.94. Quantitative data was analyzed with the aid of Statistical Package for Social Sciences (SPSS) version 22 which yielded descriptive and inferential statistics while qualitative data was analyzed through thematic analysis. The study found a positive significant relationship between social, physical and academic demand factors and stress. The study recommended that Ministry of Education should ensure immediate review of condition of services and develop a policy on stress management to guide the induction, operations and counselling of teachers on their day to day duties.

**Keywords** School, Physical environmental factors, Stressful experience, Kenya, Special primary schools

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## 1. Introduction

For centuries, teaching has been characterized as a profession that is "emotionally taxing and potentially frustrating" (Lambert, O'Donnell, Kusherman, & McCarthy, 2006, p. 79). In Georgia, the rate at which teachers leave the profession is significantly higher than the departure rate in other professions (Minarik, Thornton, & Perreault, 2003), while, in England, Ingersoll (2002) reports the departure rate in non-teaching professions remains around 11% each year. However in United States of America, this percentage is lower than the over 16% of special school teachers that leave the profession or change schools each year (Cox, Parmer, Tourkin, Warner, & Lyter, 2007). Despite the crucial role of teaching staff in fostering children's academic learning and social, emotional well-being, addressing teaching staff stress in special public primary school remains a significant challenge in education. The study by Simon (2011) on

Mindfulness-Based Stress Reduction course (MBSR) showed significant reductions in psychological symptoms and burnout, improvements in observer-rated classroom organization and performance on a computer task of affective attention bias, and increases in self-compassion.

Teaching staff play a central role in creating a climate that fosters student learning and social, emotional wellbeing. Multiple sources of stress have been cited including time demands, workload, student disruptive behavior, and organizational factors. Teachers also face increasing pressure and scrutiny with accountability to standardized tests. While these issues are complex and have a long history, to effectively address and support teachers in the current climate will require teacher involvement (Farber, 2001). Teaching and non-teaching staff perceptions of stress and their ability to cope with demands are implicated in burnout (McCormick & Barnett, 2011).

The transactional model describes stress as an occurrence that occurs when there is an imbalance between demands and resources and emphasizes the ongoing nature of the balance or imbalance. In addition, the model describes that environments can influence people and that people can influence environment, thus, any particular person-

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environment encounter has implications for both the person and the environment. The model allows us to understand stress as the combination of personal issue upon in times of stress, which also change over time. These responses, in turn affect the initial situation or stressor, and may cause us to appraise it, or think about it, differently. Where the balance of demands and resources defines stress if the demands are greater than the resources, then the stress occurs. This study was guided by interactional or transactional theory of organizational stress developed by Ross and Altmaier (1994) who described stress as the interaction of characteristics of the person and factors in the environment.

Thus, on the basis of this theory, we would expect different sub-categories of teachers such as male and female, experienced and newly recruited, married and unmarried to be affected differently by the same stress factor. This theory is important in this study because it helps in understanding how patterns of stress arise in a given population.

Reddy and Anuradha (2013) found that school physical environment such as dilapidated teachers houses, crowded classrooms, inadequate and informal furniture arrangement were key stressors. In USA, Johannsen, (2011), concluded that physical environmental factors contributes to stress among teachers and identifies students seating preferential, poor classroom lighting and ventilation, noise level in the school from learning equipment as physical environmental factors influencing stress among teachers in elementary learning institutions. In UK, Liu and Ramsey (2010) found that school physical environment was related to job satisfaction among teachers. Specifically, inadequate and untidy toilets and physical classroom arrangements were making teachers more dissatisfied with their jobs. In Australia, Quaglia, Marion, and McIntire (2010) showed a positive significant association between inadequate infrastructure and learning materials and overcrowded classrooms and teachers stress. Schulze and Steyn (2007) reported that South African educators in general currently experience the following as stressors: uninvolved parents, poor learner discipline, lack of learner motivation, learners' negative attitudes towards themselves, numerous changes inside and outside the school, and lack of self-esteem.

Adoyo and Odera (2014), study revealed that more than half of the principals reported that most high school principals (67.4%) have quitted principal ship for others assignments elsewhere including election commissioners, hospital administrators and education officers. While, 72% of principals reported that the extent of their stress level was very high. The reviewed study focused on school principals in secondary schools while the current study focused on all the teachers in special primary schools. The position of headship, stake holders and families are the sources of stress to the head teachers; the level of stress differs with head teachers biological, psychological and social systems; head teachers stress affects other teachers and the school performance. The stress mitigation strategies employed by

the head teachers and Ministry of Education are not effective (Sagara, 2013). This study was done in Kisumu on impact of occupational stress on head teachers' tasks in secondary schools and outlined pressure related with school management duties as the major stressor among head teachers.

## 2. Methodology

The study was guided by the Concurrent Triangulation design within the Mixed Methods approach. The study design adopted quantitative data then analyzed followed by the analysis of qualitative data. The two results were compared and integrated during the interpretation phase. The 7 head teachers and 215 teachers in the County were targeted as respondents in this study (Ministry of Education, 2013). The sample constituted 138 teachers chosen through saturated sampling. The validity of the instruments, Expert opinion was sought from the supervisors and two lecturers in the Department of Psychology and Educational Foundation. Reliability test was done through Cronbach's coefficient was found at 0.954, which indicated a high level of internal consistency for the study. Both Descriptive and inferential methods of analysis were used to analyze data.

## 3. Results & Discussion

A research questionnaire was carefully developed for teachers and interview schedules for head teachers; the questionnaires investigated the school physical environmental factors and whether it influenced stress among teachers in special institutions. On the school physical environmental factors contributing to stress among teaching staff in special primary schools, the researcher designed a questionnaire to collect views of the respondents on the same. The items in the questionnaire were related to facts/perceptions which were linked to actions influencing stress among teaching staff in special institutions that were deemed to have bearing on school physical environmental issues. The teachers' respondents were presented with statements that had school physical environmental factors connotations and were Likert-scaled. The respondents were to choose from 5-point score; Strongly Agree (SA), Agree (A), Neutral (N), Disagree (D) and Strongly Disagree (SD). The respondents were asked to score on each statement based on their perception on the statement in regard to school physical environmental factors contributing to stress among teaching staff in special institutions.

The findings revealed that school physical environmental factors contributing to stress in special institutions was real indicator and emerged as an important feature in influencing stress among teaching staffs in special institutions. The researcher computed percentage frequencies of the responses from the teachers was tabulated as shown in Table 1.

**Table 1.** Percentage responses of teachers on items of school physical environmental factors

ITEMS (N=121)	SA	A	U	D	SD
I felt stressed because of students seating preferential	39(32.2)	32(26.4)	11(9.1)	25(20.7)	14(11.6)
I felt stressed because of poor classroom lighting and ventilation	51(42.1)	26(21.5)	2(1.7)	27(22.3)	15(12.4)
I felt stressed because of inadequate informal furniture arrangement	49(40.5)	29(24)	8(6.6)	20(16.5)	15(12.4)
I felt stressed because of drawings and art put on the classroom walls	17(14)	27(22.3)	5(4.1)	34(28.1)	38(31.4)
I felt stressed because of inadequate infrastructure and learning materials	69(57)	34(28.1)	5(4.1)	10(8.3)	3(2.5)
I felt stressed because limited playing ground for outdoor learning activities	56(46.3)	29(24)	8(6.6)	20(16.5)	8(6.6)
I felt stressed because of physical classroom arrangements	39(32.2)	32(26.4)	11(9.1)	25(20.7)	14(11.6)
I felt stressed because of congested classroom with wheel chairs and rams that make it difficult to move around	50(41.3)	25(20.7)	10(8.3)	21(17.4)	15(12.4)
I felt stressed because of having to participate in school activities outside of the normal working hours	35(28.9)	44(36.4)	9(7.4)	17(14)	16(13.2)
I felt stressed because of difficulty in handling pupils using wheel chairs	22(18.2)	37(30.6)	12(9.9)	22(18.2)	28(23.1)
I felt stressed because of difficulty in using improvised learning instruments that may not communicate the exact message	38(31.4)	32(26.4)	17(14)	20(16.5)	14(11.6)
I felt stressed because of inadequate and untidy toilets in the school	38(31.4)	46(38)	5(4.1)	21(17.4)	11(9.1)

The study found that 31.4% of the respondents strongly agreed that they were stressed because of inadequate and untidy toilets in the school and 38% agreed that they were stressed because of inadequate and untidy toilets in the school. The findings were concurrent with Chona and Roxas (2009) who found that specific stressors were inadequate and untidy toilets. The findings were also contrary to that of Adeniyi (2010) who asserted that in rare cases do teachers share toilets with pupils and in most cases there are subordinate staffs assigned to ensure that both teaching staffs and pupils' toilets are cleaned. The study also found that more than a half 58.6% of the respondents were stressed as a result of physical classroom arrangements nearly a third, 32.3% were not stressed as a result of physical classroom arrangements. The findings concurred with that of Liu and Ramsey (2010) who found that physical environmental factors such as inadequate and untidy toilets and physical classroom arrangements were making teachers more dissatisfied with their jobs.

The study also found that more than a half 57% of the respondents strongly agreed that they were stressed because of inadequate infrastructure and learning materials while 28.1% agreed that they were stressed because of inadequate infrastructure and learning materials. The findings concurred with Chan, Chen and Chong (2010) who found in adequate informal arrangement, Heavy workload, time pressure, education reforms, external school review, pursuing further education and managing students' behaviour as the most frequently reported sources of stress among teachers in Hong Kong. In addition 70% of the respondents accepted that they were stressed because of congested classroom with wheel chairs and rams that make it difficult to move around. The findings were contrary to Morais (2006) who asserted that most teachers had gotten used to moving around congested classrooms with wheel chairs and rams that made it difficult to move around. However 29.8% of the respondents were not stressed as a result of congested classroom with wheel chairs

and rams that make it difficult to move around. The findings were in agreement with Quaglia, Marion, and McIntire (2010) study which revealed a positive significant association between inadequate infrastructure, learning materials, overcrowded classrooms and teachers stress.

The study also found that 64.5% of the respondents were stressed due to inadequate informal furniture arrangement, however more than a quarter 28.9% were not stressed as a result of inadequate informal furniture arrangement. The findings were in agreement with Jarvis (2009) who ranked classroom management anxiety second and as the main stressor for teachers. He also found that anxiety over classroom management is the only stressor that did not go away with teaching experience. Similarly 67.7% of the respondents were stressed as a result of inadequate and inappropriate bathrooms and sinks. The findings concurs with those of Reddy and Anuradha (2013) who found that dilapidated teachers houses, crowded classrooms, inadequate and informal furniture arrangement were key stressors in India. The findings were also in agreement with Kaur, (2012) who found that large classes, crowded staff areas, poorly lit rooms, lack of resources, working on school matter during vocations, dilapidated sinks and bathroom were other factors leading to occupational stress among teachers in private and public schools.

The findings were also similar with those from key interviews, one of the head teaches (HT4) quoted that, "the toilets are inadequate and teaching staff share the toilets with the pupils of which most of the pupils rarely flush with water after use" in addition, one of the head teacher (HT2) also said that teachers are exposed to stress due to the fact that they live in denial as well as using students latrines. Limited playing ground for outdoor learning activities caused stress among teachers in special primary schools as showed by the study as reported by 70.3% of the respondent. The findings were in agreement with, Johannsen, (2011) who identified students seating preferential, poor classroom lighting and

ventilation, noise level in the school from learning equipment as physical environmental factors influencing stress among teachers in elementary learning institutions.

To test the first null hypothesis of the study, the null hypothesis "There is no statistically significant physical environmental factors contributing to stress among teaching staff in special schools" was tested. To do this a correlation analysis was conducted. The set scores on the physical environmental factors were used as the independent variable while scores from stress was used as the explanatory variable (dependent variable). The results of the correlation are presented in table 2.

**Table 2.** Correlations on physical environmental factors and stress

		Physical environmental factors	Stress
Physical environmental factors	Pearson Correlation	1	.301**
	Sig. (2-tailed)		.046
	N	121	121
Stress	Pearson Correlation	.301**	1
	Sig. (2-tailed)	.046	
	N	121	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The Pearson Product-Moment correlation coefficient ( $r = .301$ ) for the teachers which was computed indicated that there was positive correlation between teachers stress and physical environmental factors in special primary schools in Kisumu County. The analysis revealed weak significant ( $p = 0.046 < .05$ ) positive relationship between teachers stress and physical environmental factors. The study findings were in agreement with Reddy and Anuradha (2013) who found that school physical environment such as dilapidated teachers' houses, crowded classrooms, and inadequate and informal furniture arrangement were key stressors. Similarly the findings also concurred with Liu and Ramsey (2010) who found that school physical environment was related to job stress among teachers. Specifically, inadequate infrastructure and learning materials such as in adequate stationeries and congested classrooms were making teachers more dissatisfied with their jobs.

During the interview with the head teachers, one of the head teachers (HT1) was quoted saying "I have witnessed situations where teachers are stressed because they use pupils' latrines, some are stressed because they travel far to school and also due to the fact that they engage into extra curriculum activities like ball games". From these findings, it is evident that there are school physical environmental factors that are responsible for stressful experience among teachers and therefore appropriate actions need to be taken to curb the situation. The findings were in agreement with Onyango, Adoyo and Florence (2014) who found that more than half of the principals reported that most high school principals have quitted principal-ship for others assignments

elsewhere including election commissioners, hospital administrators due to inadequate accommodation at school, difficulties of getting to school in time due to poor road network to school, participating in school activities outside the normal working hours and education officers. The findings were also in agreement with Johannsen, (2011), who found a significant association between physical environmental factors and stress.

During the interview with the head teachers, one of the head teachers (HT4) quoted that "The condition of school physical environment is worrying in our schools since some of these structures were put up 40 years ago and has never been renovated and this has made most of our teachers to quit teaching profession".

The findings were also in agreement with that of Billingsley, (2004) who found that special education teachers in South Africa often teach in unfavourable conditions, such as classrooms that are ill-equipped and have limited materials and supplies.

## 4. Conclusions

The study revealed a weak but statistically significant relationship between school physical environmental factors and stress. Qualitative findings also revealed that school physical factors contributing teachers to stress included lack of enough latrines and also travelling far distances to schools. School physical working environment is in bad conditions and therefore exposes teachers to stress and thus an immediate attention need to be taken to improve school physical facilities such as proper lighting, renovating class rooms and putting up more infrastructures. From the study findings, it's recommended that the Ministry of Education should ensure immediate review of condition of services, provision of adequate instructional facilities, proactive approach to service delivery, and training and retraining of special educators to meet the immediate needs and challenges of the various special needs of children in the Kenyan society. Moreover, the Ministry of Education should develop a policy on stress management to guide the induction, operations and counseling of teachers on their day to day duties.

## REFERENCES

- [1] Adoyo, J. and Odera, T. (2014) High school principals stress in relation to their job experience in schools in Nyanza, Kenya. *Educational Journal*, 7(12), 69-105.
- [2] Adeniyi, S. & Aremum O. (2010). *Perceived causes of job stress among special educators in special and integrated schools*. Unpublished Phd thesis, University of Lagos, Nigeria.
- [3] Billingsley, P. (2004), *Textbook of Psychology*. "Work related stress": *A brief review*, *JRSH*, Dec. 121 (4), 234.

- [4] Lambert, R., O'Donnell, M., Kusherman, J., & McCarthy, C. J. (2006). *Teacher stress and classroom structural characteristics in preschool settings*. In R. Lambert & C. McCarthy (Eds.), *Understanding teacher stress in an age of accountability* (pp. 105-120). Greenwich, CT: Information Age.
- [5] Minarik, M. M., Thornton, B., & Perreault, G. (2003). Systems thinking can improve teacher retention. *Clearing House*, 76(5), 230-234.
- [6] Ingersoll, Richard M. (2002). *The Teacher Shortage: A Case of Wrong Diagnosis and Wrong Prescription*. *Bulletin*. 4 86: 631.
- [7] Cox, S., Parmer, T., Tourkin, S., Warner, T., & Lyter, D. M. (2007). *Documentation for the 2004-2005 teacher follow-up survey* (NCES 2007-349). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- [8] Simon T.J, (2011). How might stress contribute to increase for schizophrenia. *Journal of neurodevelopment disorders*, (3) 68-75.
- [9] McCormick, R., & Scrimshaw, P. (2001). Information and communications technology, knowledge and pedagogy. *Education, Communication and Information (now published as: Learning, Media and Technology)*, 1(1), 37-57.
- [10] Farber, B. (2001). *Crisis in education: stress and burnout in the American teacher*. Jossey-Bass Publishers: San Francisco.
- [11] Reddy, R. & Anuradha, P. (2013). A study on the school physical environment. *Industrial pollution control* 22(1): 73-76.
- [12] Liu X. S., Ramsey J. (2010). Teachers' job satisfaction: Analyses of the teacher follow-up survey in the United States for 2000–2001. *Teaching and Teacher Education*, 24, 1173-1184.
- [13] Schulze, S. & Steyn, T. (2007). Stressors in the professional lives of South African secondary school educators. *South African Journal of Education Vol* 27:691–707.
- [14] Quaglia, S., Marion, M., and McIntire, H. (2010). Teachers' satisfaction with their teaching Profession. *Journal of Educational Research*, 75, 241-247.
- [15] Sagara, R.K. (2013). *Sources of stress among head teachers, levels of stress among head teachers in Kisumu*. Unpublished Phd thesis, University of Nairobi, Kenya.
- [16] Chona, C., Roxas M.A. (2009), Stress among public elementary school teachers. *University of Cordilleras Research Journal*, 1(4), 86-108.
- [17] Morais, R. (2006), *Teachers under stress*. Melbourne: Hill of Content.
- [18] Kaur, S. (2012). Fix it and they might stay: School facility quality and teacher retention in United States of America. *Teachers College Record*, 107, 1107-1123.
- [19] Johannsen, S. E. (2011). An Analysis of the Occupational Stress Factors Identified by Certified Teachers. *Electronic Theses & Dissertations*. Paper 377.
- [20] Onyango, M. J. Y, Adoyo, R. O. and Owino, F. Y. (2014). An Assessment of the Extent at which High School Principals are Stressed in relation to their job Experience in Schools in Southern Nyanza region, Kenya. *International Journal of Humanities and Social Science Invention Volume 3 Issue 5* PP.25-33.