

## The Relationship between Breakfast and Performance in Junior Secondary Schools In Ogun State

Toyobo Oluwole Majekodunmi Ph.D, Owoyele Jimoh Wale Ph.D

Tai Solarin University of Education College of Applied Education & Vocation Technology  
Department of Counselling Psychology.  
P.m.b.2118, Ijagun Ijebu- Ode, Ogun State.

Accepted 25<sup>th</sup> April, 2012

### Abstract

This study investigated the relationship between breakfast and school performance,(academic performance, class participation and recall ability). Three null hypotheses were tested. The study population was made up of all the junior secondary school students in Ogun State, out of whom 800 students were drawn to constitute the sample using the multi-stage sampling technique. Two instruments developed and validated by the researchers were used for data collection. Both the BAS and SPQ were validated with each having 0.91 and 0.86 reliability co-efficient respectively. Data analysis was done using the Pearson Product Moment Correlation Co-efficient. Findings showed a strong positive relationship between breakfast and each of academic performance, class-participation and recall ability. Hence, regular breakfast should be provided to students by their parents while government and voluntary agencies should also help to boost students' breakfast intake.

**Keyword:** Ogun State, breakfast, Class-participation, Recall ability, Junior School.

### Introduction

Education is very important for human survival. Hence going to school is a very crucial aspect of human life. That is why the society places a great importance on education of children. It is the only legacy that can be handed over to succeeding generations. Parents who cherish education prefer to spend the last savings they have in getting the children educated, because in the later years or future when they are very old and helpless, it is those trained that will take over from them and possibly cater for their old age. It is imperative to note that without education a person will find it very hard to develop the skills needed to make it through everyday life. Going to school is not enough. If student should be able to perform well in his or her classes in order to get the most out of his or her education and become a high achiever. In our society, for years questions are asked constantly on what will make students perform better in school. Feeding is often cited as a necessary condition for better academic performance. It has often been suggested that breakfast in particular must be regular nation's Universal Basic Scheme (Obanya, 2001). The paramount questions that are adequate in terms of quality. Hence, provision of daily breakfast is one of the major components of the comes to mind is that does exiting breakfast contribute to greater school performance.

### Literature Review

A lot of studies have been carried out to determine whether or not a positive relationship exists between eating breakfast and students' performance. One study (Klemm

1998) as cited on the website in New Harvard Research (1998) established a link between increased participation in the National School Breakfast Program and improved psychosocial behaviour and academic performance in students. The study followed 133 elementary school students before and after the beginning of a universally force breakfast program. The result of the study revealed that the student that increased their breakfast participation were significantly more attentive in class earned higher grades in maths and had significantly fewer behavioural and emotional problems. Beyond the aforementioned study, it was found that the schools who participated in the breakfast program displayed a significant decrease in overall hardness, absences and disciplinary incidents compared to the three control schools in which school breakfast participation remained low. Worobey (1999) examined the effects a school breakfast program had on pre-schoolers. Breakfasts were prepared for the children by a hired Food Technician in accordance with the School Breakfast Program (SBP) Guidelines made up by the Federal Government. As a control group, some parents were asked to feed their children breakfast log. All of the pre-school children were given a series of tests to measure their performance ability. One of the tests was a verbal memory test where each child was read a striving of words on increasing length. The child was then asked to repeat the words in the proper sequence. Results from the study showed that children performed better in general when tested after school breakfast than they did after the home breakfast. They concluded that serving pre-school children a meal in accordance with SBP Guidelines does result in a greater performance in various tasks than in children who were not served the school meal. Crockett and Sims (1995) also conducted a study on the effects that a breakfast according to SBP Guidelines had on a student's performance. With two groups of fourth and eighth grades, they discovered that eating the meal according to SBP Guidelines positively influenced children's nutritional status health growth and learning ability. They had a higher intake of energy than those students who skipped breakfast completely because those students that skipped did not appear to make up for the loss by increasing energy intake at other meals during the day. The next study attempted to discover what types of children are most affected in school performance by omitting breakfast. The study that was done on elementary-aged children (Simeon and Granthem-McGregor 1989) looked at the effects of missing breakfast on a child's overall performance, mainly his or her cognitive functioning. The effects of omitting

breakfast were looked at in children of differing nutritional status. The first group of children was the stunted group, who were defined as linear-growth-retarded (low height-for-age due to under nutrition) school children. The second group was the non-stunted control group (not growth-retarded) and the third group was the previously severely malnourished students (malnourished in early childhood). The children were given a series of tests to measure their performance. Three of the tests were subtests of the Wechsler Intelligence Scale for children and they consisted of an arithmetic test, a digit span memory recall test and a coding test. (Substituting symbols for numbers as quickly as possible). These tests were chosen for the study because performance on these tests are affected by attention and distractibility which are things likely to be susceptible to missing breakfast. Results from all of the tests showed that the control group was not adversely affected when they missed breakfast. The study concluded that missing breakfast could possibly be a serious contributor to poor performance and achievement in undernourished elementary aged school children. In order to confirm the studies conducted on the Elementary school age, there were other two studies carried out on college students. The first college student study conducted by Benton and Parker (1998) examined the relationship between breakfast consumption, memory and blood glucose. The study was done on 33 University Students, and they were given a series of tests. One of such test was a word list test similar to the one from the Worobey and Worobey study. Students were read lists of 15 frequently used words. Then to prevent rehearsing, the students were asked to write down as many of the fifty states that they could think of. Immediately after this, they were asked to write down as many of the words from the list that they could remember. After studying the participants, researchers concluded that breakfast consumption does influence tasks requiring certain aspects of a person's memory. One interesting thing they found that in some of their memory tests, a decline in student performance with the non-breakfast eaters was reversed by the consumption of a glucose-supplemented drink. This was not the case however, with all of the memory tests. The second study on college student (Politt, 1995) also looked at the relationship between eating breakfast and school performance in school. The students were placed on either the fasting group or the breakfast group. The students were then given tests in spatial memory and immediate recall. Politt, who reviewed the study, stated that those who ate breakfast displayed higher performance in both tests than those who were in the no-breakfast condition. He claimed that the most important conclusion to be drawn from the study is that the data seems to indicate that brain functioning is sensitive to short-term changes in the availability of nutrient supplies. In spite of the examination conducted on relationship between eating breakfast and performance in school low effort was made on what kind of breakfast should be eaten in order to attain the most energy. Morse and Pollack (1988) compared various starch foods to see how much maltose (carbohydrates that are easily convertible in the small intestine to energy yielding glucose) was produced by the action of chewing and breaking down food. It was found that foods such as yams, cassava, or gari

yielded a large amount of maltose while foods such as white bread yielded very little maltose. This difference in maltose was related to the presence of preservatives and other such chemicals in some processed foods (such as white bread) which can have an inhibitory preservatives or other chemical food can produce a large amount of maltose when combined with thorough and relaxed chewing resulting in increased energy availability for the students to function better in school. In this study, the two variables that were studied were eating breakfast and school performance. Breakfast included eating breakfast before school. School performance included academic performance, participation in class and recall of information (memory). It is expected that the more student eats breakfast before school the greater the school performance that he or she will display.

### Significance of the Study

This topic has great importance because discovering another way to increase school performance in secondary schools will be to the benefit of the parents, teachers and society. It is not an exaggeration that higher performance in school will surely lead to higher performance in our society and workforce in the future.

### Hypotheses.

To actualise the objective of the study, the following hypotheses were formulated and tested at 0.05 alpha level.

1. There will be no significant relationship between eating breakfast and academic performance.
2. There will be no relationship between eating breakfast and students' participation in class activities.
3. There will be no significant relationship between eating breakfast and students' ability to recall information (memory)

### Methodology

The study employed the ex-post facto descriptive research design. The major variables studied were simply described, as they existed on the field. None of the variables was manipulated to cause a change in the other. Instead, appropriate data were collected to be able to describe the relationship between eating breakfast and students' school performance.

### Population

The study population consisted of all the students of all the students in public junior secondary schools in Ogun State.

### Sample and Sampling Technique

A total number of 800 students participated in the study. The multi-stage sampling was used. First, the four geopolitical divisions in the state (Egba, Yewa, Ijebu and Remo) were treated as strata. 200 students were drawn from each stratum. Secondly, using the simple random sampling technique, 5 schools were selected to participate in the

study in each division. Finally, 40 students were randomly selected in each school to participate in the study.

**Instrumentation**

Two instruments developed and validated by the researchers were used in this study. The Breakfast Assessment Scale (BAS) has two sections. Section A seeks for demographic data while section B contains 12 items measuring the quantity and quality of students' breakfast intake. The School Performance Questionnaire (SPQ) also has two sections. Section A for demographic data while Section B contains 24 items measuring school performance (class-participation and recall ability). Students' performance in their last class test in English language provided data to measure academic performance.

The BAS measures quantity and quality of breakfast as a construct. Its contents include all classes of food available in the state, thus, ensuring both the construct and content test validity. Similarly, the SPQ measures class-participation and recall ability as indices of school performance. The test re-test reliability method was used to establish the reliability of the two instruments. Pearson product Moment analysis of the two sets of scores generated for each of the instruments yielded 0.91 and 0.86 respectively.

**Results**

The results obtained from data analysis using Pearson Products Moment Correlation are presented in the following summary tables.

**Psychometric Proprieties of the Instruments**

**Table 1:** Relationship between Breakfast and Academic Performance

		Breakfast	Academic Performance
Pearson Correlation	Breakfast	1.000	0.614
Sig. (2-tailed)	Academic performance	0.614	1.000
	N	800	800

P<0.05

It is clear from Table 1 above that there is strong positive correlation between breakfast and academic performance (r=0.61; N=800, P<0.05). therefore, the null hypothesis

stated earlier is rejected in favour of the alternative hypothesis. This means that there is a strong positive relationship between breakfast and academic performance.

**Table 11:** Relationship between Breakfast and Class -participation.

		Breakfast	Academic Performance
Pearson Correlation	Breakfast	1.000	0.843
Sig. (2-tailed)	Class-participation	0.843	1.000
	N	800	800

P<0.05

Table II above shows that there is a strong positive relationship between breakfast and class-participation (r=0.84; N=800; P<0.05). Therefore, the null hypothesis

stated earlier is rejected in favour of the alternative hypothesis. This means that breakfast has a strong positive relationship with students' class-participation.

**Table 111:** Relationship between Breakfast and Recall Ability.

		Breakfast	Academic Performance
Pearson Correlation	Breakfast	1.000	0.921
Sig. (2-tailed)	Recall ability	0.921	1.000
	N	800	800

Table III above shows that there is a strong positive relationship between breakfast and recall ability ( $r=0.921$ ;  $N=800$ ;  $P<0.05$ ). Therefore, the null hypothesis stated earlier is rejected in favour of the alternative hypothesis. This means that breakfast has a strong positive relationship with students' recall ability.

## Discussion

The results of data analysis empowered the researcher to reject all the three null hypothesis generated for the study. The findings indicated that breakfast has a strong positive relationship with each of academic performance, class-participation and students' recall ability. These findings are plausible considering the need for human to replenish energy from time to time. A Yoruba adage says, "an empty stomach cannot assimilate any information". Children especially need regular and balanced diet to grow healthy and learn effectively in school. The finding that breakfast has a strong positive relationship with academic performance corroborates Klemnan (1998) who found an established link between school breakfast programme and improved psychosocial behaviour and academic performance in students. It is also lends credence to the inclusion of breakfast in the components of the Universal basic Education Scheme as stated by Obayan (2001). Breakfast is expected to provide a renewed energy and necessary vigour to children to perform better in their academic pursuit. Similarly, the finding that there is strong positive relationship between breakfast and class-participation is quite reasonable. One who is hungry for lack of breakfast may loose interest in class-activities, concentrate less and even sleep off when class activities are in progress due to the pang of hunger. This finding lends credence to various studies conducted earlier on the theme of the study (Morse & Pollack, 1988); Klemnan, 1998; Klorobey & Klorobey, 1999). They all established that there is a relationship between breakfast and participation in class activities. Lastly, the finding that there is a strong positive relationship between breakfast and recall ability agrees with human reasoning. For materials to endure in human memory, there must be room for attentiveness, clear perception and rehearsal. One who did not take breakfast and suffers from the pangs of hunger may loose all these in a lesson resulting in loss of recall ability. This finding confirms that of Benton & Parker (1998) who found a decline in the performance of non-breakfast eaters in a memory test. It also supports Politt (1995) who reported differential performance of breakfast eaters and non-breakfast eaters in tests of spatial memory and immediate recall.

## Implication of the Findings.

Implication of the findings of this study has a lot of implication for policy and counselling. The findings imply that due attention and recognition must be given to students' need for breakfast. The derive for poverty alleviation must be enhanced to empower parents to feed their children adequately. In the meantime government interest in supplementing students' breakfast as a component of UBE should be sustained. The findings also imply that school counsellors should help in identifying

students who are non-breakfast eaters with a view to calling attention of relevant authorities to their plights.

Recommendations To enhance students' academic performance, class-participation and ability, their parents should provide regular breakfast for them. The government (through the UBE) should sustain and enhance the school breakfast scheme. Other voluntary agencies such as the non-governmental organisations, religious bodies and public-spirited individuals should also help in this regard.

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