

## **Influence of School Feeding Programs on Students' participation in Sports Activities in Ilala District Council, Tanzania**

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**Abstract:** *This study investigated the influence of school feeding programs on students' sports activities in Ilala District. It was conducted to examine primary school pupils' participation in sports before the introduction of feeding programs, to determine the relationship between school feeding programs and pupils' participation in sports in primary schools, and to highlight improvements in students' participation in sports activities after the introduction of school feeding programs in primary schools in Ilala District. The study employed a convergent research design under a mixed research approach. A sample of 168 respondents, including head teachers, sports teachers, and pupils purposefully chosen from selected primary schools in Ilala District were involved in the study. Data were gathered by using questionnaires, interviews, and focus group discussions. The quantitative data were analysed by using descriptive statistics with the help of SPSS version 25 while the qualitative data were analysed thematically. The results showed that the school feeding programs enhance students' physical fitness for sports activities. It was revealed that, before the introduction of the feeding programs, students' participation in sports was low as many of them were inactive and others found it difficult to participate due to the lack of food in their schools. Moreover, it was found that the introduction of feeding programs had positively changed students' attitudes towards sports and improved their health and participation in sports. The study recommends that the authorities responsible for education have to make every possible effort to sustain and expand*

*the feeding programs and establish special committees for effective management and monitoring to ensure that children get food in schools on a continuous basis.*

**Keywords:** school feeding program, sports activities, physical activity, physical health

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## INTRODUCTION

School feeding programs are globally accredited for improving children's nutritional status and making them healthy, thus enhancing their ability to learn and engage in extracurricular activities (Chwartz and Rothbart, 2017; Afridi et al., 2019; Lago and Quirap, 2022; Senesie *et al.*, 2022) including sports. Free meals offered to children at school have the potential to promote their readiness to learn and influence their performance regardless of the economic background of the families they come from (Chwartz and Rothbart, 2017). Chwartz and Rothbart add that these programs reduce administrative burdens for schools, help to get rid of food insecurity for the needy children, and promote their participation in learning. Grantham-McGregor (2015) establishes that feeding programs enhance students' attendance, enrollment, performance and cognitive development, all of which have a beneficial impact on academic advancement

In East Africa, specifically in Rwanda, Kenya, and Tanzania, research evidence leans on the positive influence of school feeding programs. A study by Nkurunziza and Turinayo (2022) shows that these programs reduce school dropout rates, increase enrollment, and enhance students' performance. Similarly, Marcelline and Andala (2022), whose study was done in Rwanda, support the argument that feeding programs improve academic performance, daily attendance, and health of students. More research evidence in support of this claim comes from Karaba Gritumu & Mwaruvie (2019) and Mohamed (2022) who did their studies in Kenya. Mohamed, for instance, found that the absence of a feeding program at school affects students' concentration, makes lessons less engaging, and leads to absenteeism and disinterest in studying.

In Tanzania, school feeding programs are recognized as vital for the health and academic well-being of children (Sanya 2015; Kamnyungu, 2019; Shosho, 2021; URT, 2021). Owing to that, the government has been implementing these programs in collaboration with other stakeholders of education, including parents. The implementation process follows a National School Feeding Guideline issued by the Ministry of Education in 2021 to provide a standardized framework upon which schools, communities, and local governments can develop, coordinate, and oversee school feeding programs (Shosho, 2021; URT, 2021). This guideline covers the significance of school meals, program management, stakeholder responsibilities, community involvement, local contributions, and data management systems. The issuance of the National

School Feeding Guideline was a significant step towards promoting availability of nutrient-dense foods in schools (URT, 2021). The current research was set out to determine the influence of the school feeding programs on students' involvement in sports.

### **Statement of the problem**

Previous studies show that feeding programs have a positive influence on students' well-being and participation in school activities. It has been reported that school feeding programs help to improve students' school attendance, concentration, health, overall performance, and enrollment, alleviate short-term hunger, reduce family expenses, and extend the learning time (Sanya, 2015; Karaba, Gritumu and Mwaruvie, 2019; Kamnyungu, 2019; Marcelline and Andala, 2022; Mohamed, 2022). However, previous studies conducted in Tanzania (e.g. Sanya, 2015; Otenda, 2021; Neuman, 2014) focused primarily on the academic influence of school feeding programs. Thus, no study that focused on the influence of food programs on students' engagement in sports is known. Therefore, this study was envisaged to address this gap by investigating the influence of school feeding programs on students' participation in sports in Ilala District.

### **Objectives of the Study**

The study had three objectives as follows;

1. To examine primary school students' participation in sports before the introduction of feeding programs in Ilala District.
2. To determine the relationship between the school feeding programs and pupils' participation in sports in primary schools in Ilala District.
3. To highlight improvements in the students' participation in sports after the introduction of school feeding programs in primary schools in Ilala District.

### **Theoretical framework**

This study was underpinned by Maslow's Hierarchy of Needs theory. According to this theory, human needs are arranged in a hierarchy according to their importance, with lower-level needs forming the basis for higher-level needs (McLeod, 2018). Physiological needs—such as food, drink, shelter, and sleep—are at the bottom of the hierarchy since they are vital to life and well-being. An individual will seek out the next level of needs once these basic ones are satisfied. The need for security—both psychologically and physically—as well as stability and protection from harm lie in the second level of the hierarchy (Khurshid, & Khurshid, 2024). This level comprises needs such as a safe environment, employment security, financial stability, and access to healthcare. Once safety needs are fulfilled, individuals progress to the third level, which comprises love and belonging needs. According to McLeod (2018), this includes the

need for close relationships, social ties, a sense of community or group membership, and the experience of love, affection, and acceptance from others. The fourth level of the hierarchy is occupied by esteem needs, which include acceptance, self-respect, and a favorable self-evaluation (McFarlane, 2024). This includes the need for achievement, mastery of skills, social status, and receiving positive feedback and validation by others. At the top of the hierarchy is the need for self-actualization, where individuals strive to fulfill their full potential, pursue personal growth, and engage in activities that align with their values and interests (Boston-Leary, et al., 2024).

## **LITERATURE REVIEW**

School feeding programs have been a hot topic of research in different places in the world. One aspect of interest to many scholars has been the impact of the school feeding programs on the learners and the school system. Other aspects are the relationship between feeding programs and academic involvement, and the challenges that constrain the feeding programs in schools.

### **Students' participation in sports before the introduction of feeding programs**

Buchanan et al. (2023) did a study on school dietary and physical activity interventions in Atlanta and found that the feeding programs helped to improve the health of children by offering them nutritious food, thus enhancing their physical activity. These scholars also showed that school feeding coupled with physical exercises increase children's physical fitness and reduces the risk of overweight and obesity among elementary students.

Dobbins et al. (2013) conducted a study on school feeding programs for promoting the physical activity and fitness of children and adolescents aged 6-18 in Canada. Their findings indicated that school feeding programs have positive effects. So they argued that such programs have to be sustained and the school boards have to be encouraged to participate in running them.

Kwabla et al. (2018) looked into the nutritional condition of school-age children and the factors related to it. They revealed that children in schools that implemented school feeding programs had minimal cases of stunted growth compared to children in schools with no feeding programs. It was noted that children in schools with feeding programs had a two-fold higher prevalence of thinness, which is a sign of malnutrition. A statistically significant difference was found, suggesting that children in schools with food programs had a higher probability of being skinny. Moreover, a considerable number of overweight cases were found among children in schools that had school feeding programs but there were no such cases in schools with no feeding programs.

Mustapha et al. (2022) evaluated the impact of school feeding programs on reduction of overweight among primary school children in developing countries. The findings showed that, due to the programs being short-lived, low compliance to the programs' plans, and substitution

of school meals, school feeding had no discernible positive impact on the physical nutrition of primary school students.

Nanney and Schwartz (2009) studied the importance of developing school environments and policies that encourage physical activity and good eating in the United States as a means of preventing obesity in students. Competitive foods—those sold outside the school compounds,—were found to be easily available in schools, especially secondary schools. It was revealed that integrating physical exercise into the educational curriculum had social, emotional, and physical benefits. Regarding the policies on these programs, initial comparative analyses of local school wellness policies indicated that only larger districts and districts with a higher proportion of students had policies on free or reduced-price lunch.

Wang and Fawzi (2020) evaluated the impacts of school feeding programs on the educational and health outcomes of children and adolescents in low and middle-income countries. They established that school years represent a critical period not only for physical and mental development but also for the formation of long-term dietary and lifestyle habits and recommended the design and implementation of school feeding programs should be based on the established benefits of such programs on specific educational and health outcomes of children and adolescents.

Karimah et al. (2023) used a cross-sectional survey to study the effect of school feeding programs on nutritional balance in primary school pupils in Kano metropolis in Nigeria. They collected data from Dala, Kano municipality, Gwale, Nasarawa and Taurian. They used a sample of 2052 pupils selected using a two stage-sampling technique from seventy-eight primary schools that had feeding programs and eight schools that had no feeding programs. The findings indicated that there was underweight, stunting and thinness among the pupils in schools that did not have school feeding programs, than those with school feeding programs. Also, the findings revealed that the beneficiaries of the school feeding programs performed better academically since the food provided at school enhanced their cognitive skills and abilities. Hence, the findings suggested that school feeding programs could improve the nutritional status of children.

### **Relationship between school feeding programs and students' participation in sports**

Bagaya and Sekabembe (2012) carried out a study to establish whether students' involvement in sports activities affected their involvement in academic activities. Data were collected using a self-administered questionnaire and analyzed using percentages and means.. The study's guiding hypotheses were tested using Spearman's correlation coefficient. The findings indicated no significant relationship between students' involvement in outdoor sports activities and their involvement in academic activities. However, there was a significant

negative relationship between students' involvement in indoor sports activities and their involvement in academic activities.

Drenowatz and Greier (2018) investigated the relationship between motor ability, nutritional habits, and sports involvement in 165 Austrian middle school students aged 11–14. The findings showed that while there was little evidence of a relationship between eating habits and sports involvement and motor competence, both behaviours were separately linked to improved motor performance. They came to the conclusion that encouraging teens to participate in club sports and eat healthily would help them develop their motor skills. Since adolescence is a critical period for forming lifelong habits, these efforts may also help them maintain a healthy lifestyle into adulthood. However, the study did not highlight the influence of school food programs on students' involvement in sports.

Garcia (2015) investigated the experiences of college students who had participated in high school sports and the factors that contributed to positive or negative experiences. The study employed a qualitative approach and used semi-structured interviews to collect data from a sample of 28 college students. The findings indicated that the influence of family and friends and the opportunity to engage in competitive activities were the most significant factors contributing to positive sports experiences. Family had a stronger influence than friends on students' decisions to initiate and continue participation in sports in high school. On the other hand, problematic experiences with coaches were the most prevalent negative aspects of sports participation.

Maniam (2017) investigated students' participation in sports as part of co-curricular activities within and outside school, as well as the influence of parental support on their engagement in sports. The data were collected through written personal statements from 111 students, using open-ended questions that were based on a humanistic sociological approach. The results showed that some students engaged in sports a variety of sports, with soccer taking the lead. Others did not participate in sports as it was not mandatory to do so. There was parental support for sports participation in most cases, but only a small percentage of parents provided such support. Some respondents mentioned negative family constraints that hindered their participation, such as a lack of parental interest, safety concerns, financial costs and difficulty balancing sports with other aspects of life.

Mollel and Otieno (2022) examined the obstacles that students encounter when engaging in sports and evaluated the impact of sports engagement on academic achievement in Arusha district. They used a mixed methods research approach. Their study sample comprised 81 form four students. Descriptive statistics were used to analyse the quantitative data while the qualitative data were analysed thematically. The results revealed that a number of barriers to school sports programs, such as inadequate playgrounds, costly sporting equipment,



low student enthusiasm in sports, and a lack of experienced coaches. The findings also showed that participating in sports enhances kids' social skills, mental clarity, health, and readiness for their career in the future.

Vellaet al. (2013) investigated the relationship between adiposity and obesity-related health behaviors among Australian adolescents. A cross-sectional design was employed, where 12,188 teenagers aged 12-17 from 238 secondary schools were involved in the study. According to the study, men and people who lived in remote or rural areas were more likely to participate in organized sports. Underweight adolescents had the lowest involvement rates. Increased participation was linked to a higher chance of adhering to national recommendations on fruit and vegetable consumption as well as screen time for physical exercise. The study established that playing organized sports was linked to a higher likelihood of adhering to health-related behaviors, such as following recommendations for electronic screen time, physical exercise, and fruit and vegetable eating.

Khatete, Pendo and Oyabi (2015) investigated the influence of school feeding programs on the pupil's participation in primary schools in Taita Taveta and Nairobi Districts in Kenya. The findings indicated that food programs had contributed neither to an increase in enrolment nor improvement in KCPE performance in public primary schools. The findings also indicated that the program plays a major role in enhancing pupils' participation in co-curricular activities.

### **Improvements in students' participation in sports after introduction of school feeding programs**

Bennassi et al. (2021) did a study on children's physical activity and nutrition in primary schools to determine the level of nutrition and physical activity of younger school children, as well as the differences between girls and boys. The results showed that participants of this research mostly had a normal nutritional status, practice sports in their free time and spend enough time on outdoors physical activities.

Chemeda (2020) carried out a study on the general health characteristics of U-17 sport project trainee athletes and their coaches, such as physical fitness, mental health, and a balanced diet, in addition to nutrition knowledge about macro-nutrients, micro-nutrients, and hydration. Forty athletes and four coaches were chosen from a study population of one hundred athletes and four coaches. Data was gathered through observation, questionnaires, and interviews. The results showed that the majority of respondents lacked nutritional understanding of the kinds of meals and how nutrition influences athletic performance. The data collection methods used by Chemeda were almost the same as those used in the present study except that the present study used focus group discussion instead of observation.

Persson and Flodmark (2017) looked into the dietary practices and levels of physical activity among university students in Bangkok, Thailand. Using a cross-sectional design, they collected data using a standardized questionnaire which they administered to 121 second-level public health program students. The findings showed that the majority of participants adhered to Thailand's official dietary and physical activity recommendations. Many students expressed their desire to consume more fruits and vegetables on a daily basis. The pupils met the prescribed levels of exercise but they showed less interest in physical activities. In terms of differences across gender, male students were more interested in eating fruits and exercising as compared to their female counterparts. Female students, on the other hand, weighed themselves more frequently than male students did. Persson and Flodmark's study did not address the influence of food programs on children's participation in sports, which is the focus of the present study. Again, while they used a standardized questionnaire alone in collecting data, the current study used questionnaires, interviews and focus group discussions

Thomas et al. (2016) used the expectancy-value theory to study the extent to which secondary school students participated in sports activities during physical education sessions. According to the results, girls' involvement in intense physical activity was correlated with perceived importance, while boys' involvement in intense physical activity outside school was correlated with attained value. In all physical education classrooms, boys were more physically active than girls. In contrast, in a course of the seven days, girls participated more in extracurricular activities. While this study used the expectancy-value theory, the present study was underpinned by Maslow's Hierarchy of Needs Theory.

### **Research gap**

The previous studies reviewed above offer useful insights into the effects of school feeding programs on academic and health-related outcomes. A number of them, including Mohamed (2022), Mwaruvie (2019), Sanya (2015) and Kamnyungu (2019), touched on various aspects of feeding programs such as on academic performance, attendance, and health outcomes of students' well-being. Yet, no study on the influence of such programs on students' sports activities in the context of Ilala District is known.

## **METHODOLOGY**

### ***Research approach***

The study employed a mixed research approach. Particularly, a convergent research design was used.



### ***Sample and sampling procedures***

The study used a sample of 168 respondents. This sample comprised head teachers, sports teachers, and pupils. All of them were purposefully chosen from 14 selected primary schools in the Ilala District.

### **Data collection procedures**

This study used questionnaires, interviews, and focus group discussions to collect data from respondents. The questionnaires were used to collect quantitative data from sports teachers. The interviews were carried out with head teachers to obtain qualitative data. For more qualitative data, one focus group discussion was conducted in each of the 14 selected public primary schools.

The data collection instruments were tested for their validity and reliability. Content validity was adopted to ensure validity of the questionnaire. The researcher administered the questionnaire to 15 respondents during the pilot study to check if its items were clear and capable of collecting the desired data. Ambiguous items were reviewed for enhanced clarity. Also, the researcher consulted an expert from Jordan University to check the validity of the questionnaire. Meanwhile, reliability of the questionnaire was tested by using Cronbach's coefficient alpha ( $\alpha$ ), which was employed to test inter-item correlation. The questionnaires filled by 15 teachers were tested for Cronbach value by using SPSS. A Cronbach value of 0.871 was obtained, which implied that the instrument was reliable. For the case of the interview and focus group discussion guides, several steps were followed in ensuring reliability. Clear research objectives and questions were set to ensure the information gathered yielded the intended outcomes. Pilot testing of the guide was conducted with a small sample to remove identify uncertainties, biases, or gaps.

### **Data analysis procedures**

The quantitative data were analysed by using descriptive statistics with the help of SPSS version 25. Meanwhile, the qualitative data were analysed thematically.

## **FINDINGS AND DISCUSSION**

### **Students' participation in sports before introduction of feeding programs**

The first objective of study was to examine students' participation in sports activities before the introduction of school feeding programs in primary schools in Ilala District. Table 1 presents the findings for this objective

**Table 1: Students' participation in sports activities before feeding program (n = 70)**

Sub Item	A f (%)	N f (%)	D f (%)	TOTAL f (%)
School feeding programs motivate students to participate in sports	68 (97.1%)	1 (1.4%)	1 (1.4%)	70 (100%)
School feeding programs contribute to increased student participation in sports	68 (97.1%)	1 (1.4%)	1 (1.4%)	70 (100%)
School feeding programs contribute to student's physical fitness for in sporting activities	70 (100%)	0 (0%)	0 (0%)	70 (100%)
The provision of meals at school seems to increase student's readiness for sporting activities	69 (98.6%)	1 (1.4%)	0 (0%)	70 (100%)
School feeding programs help in creating culture of sports and physical activity	70 (100%)	0 (0%)	0 (0%)	70 (100%)
School feeding programs enhance psycho-motor ability in sporting activities	70 (100%)	0 (0%)	0 (0%)	70 (100%)
School feeding programs positively impact students' mental focus and concentration during sports.	58 (82.9%)	2 (2.9%)	0 (0%)	70 (100%)
The school feeding programs play a role in promoting a healthy and active lifestyle through student involvement in sports.	68 (97.1%)	0 (0%)	2 (2.9%)	70 (100%)
School feeding programs seem to influence students' decisions to engage in sports activities regularly.	59 (84.3%)	2 (2.9%)	9 (12.9%)	70 (100%)
Schools feeding programs influence students' interest in involvement in sports	65 (92.9%)	3 (4.3%)	2 (2.9%)	70 (100%)
School's sporting programs encourage students to participate in sports	54 (77.1%)	7 (10%)	2 (2.9%)	70 (100%)

**Key:** A=agree, N=neutral, D= disagree, f= frequency

**Source:** Field Data (2024)

The findings for the sub-item 'before the introduction of school feeding program' show that there was low participation of pupils in sports 61(87.1) before the introduction of feeding programs. This is further evidenced by the data for sub-items 'participation in sports becomes inactive' 60 (85.7%) and 'students' participation in sports activities becomes difficult before the introduction of sports activities' 59 (84.3%). This means that students' participation in sports in the context where there is a lack of food must remain low. The findings agree with Maslow's Hierarchy of Needs Theory which postulates that basic physiological needs, such as nutrition, must be met before individuals can fully engage in higher-level activities like sports. This suggests that low involvement of students in sports may be related to unfulfilled physiological demands. This obstacle may be addressed if feeding programs are implemented to improve students' engagement and general health.

The findings for the sub-items 'students become unhealthy and fail to participate in sports activities before introduction of feeding program 53 (75.7%), students poorly participate in sports activities before the introduction of feeding programs 51 (72.9%) and Students' interest in sports activities before the introduction of feeding programs 49 (70%) showed that a lack of food at school has a critical impact that reduces student involvement in sports. The results corroborate those of Bennasi et al. (2021), who proposed that schools have to provide nutritious meals to students in order to enable them to engage in physical education classes and games. This suggests that when students do not eat enough food, their health will deteriorate and they will become less interested in sports. It is therefore vital to maintain feeding programs to guarantee that all students receive enough meals so that they may engage in sports and games effectively.

The findings for the sub-items on students used to engage in various sports activities before the school feeding programs 45 (64.3%) and before the introduction of feeding programs creates indiscipline among students to participate in sports activities 43 (61.4%) showed that the school feeding program gives students discipline during their participation in games. The results corroborate those of Maniam (2017) who reports that, although parental support for sports participation was common, actual involvement was scarce. This suggests that there is less involvement in athletics when students are undernourished as a result of a lack of parental support.

The sub-items 'lack of school feeding programs hinders students talents in sports activities 32 (45.7%), lack of feeding programs cause malnutrition which makes students to be weak to participate in sports activities 32 (45.7%) psychological distress due to absence of food makes it difficult for students participate in sports 31 (44.3%) and students are highly engaged in sports activities before the introduction of feeding programs 30 (42.9%), absence of school

feeding programs hinders Students' fitness level thereby influencing their participation in sports 26 (37.1%), before the introduction of feeding program Students' involvement becomes high 25 (35.7%), and students participate in sports activities regularly before the school feeding program was introduced 21 (30%) were not considered by respondents as obstacles that may hinder students sporting talents. The quantitative findings were supported by the qualitative findings.

The qualitative findings showed that most of the students did not participate in sports before the food programs began to be implemented. To attest this, HOS 10 and students who participated in FGD 11 were quoted saying the following;

*Sports are a form of brain food; half of the students did not participate in sports because they were hungry... Students participated minimally because many of them were hungry and had to go home early. (HOS 10).*

*We were forced to participate a lot because many of us would hide or pretend to be sick when told to go to the field (Students; FDG 11).*

These quotations highlight the benefits of food programs in increasing students' involvement in sports because hunger had a negative effect on students' participation in sports. According to HOS 10, children need food to perform effectively in sports, just as the brain needs nourishment to function well. This comparison between sports and brain food was made. According to FDG 11, a large number of pupils avoided participating in sports due to inadequate nutrition, and some even made up illnesses to avoid playing. This suggests categorically that hunger was a major impediment to students' participation in sports, affecting their physical ability as well as their zeal for sports. To improve participation, hunger has to be addressed to guarantee successful engagement in physical activities.

### **School Feeding Program and Students Participation in Sports Activities**

The second objective was to determine the relationships between feeding programs and students' participation in sports activities in primary schools in Ilala District. Table 2 below presents the findings for this objective.

**Table 2: School Feeding Programs and Students' Participation in Sports activities (n=70)**

Sub Item	A	N	D	Total
	f (%)	f (%)	f (%)	f (%)
School feeding programs motivate students to participate in sports	68 (97.1%)	1 (1.4%)	1 (1.4%)	70 (100%)
School feeding programs contribute to increased student participation in sports	68 (97.1%)	1 (1.4%)	1 (1.4%)	70 (100%)
School feeding programs contribute to students' physical fitness for in sports activities	70 (100%)	0 (0%)	0 (0%)	70 (100%)
The provision of meals at school seems to increase student's readiness for sporting activities	69 (98.6%)	1 (1.4%)	0 (0%)	70 (100%)
School feeding programs help in creating culture of sports and physical activity	70 (100%)	0 (0%)	0 (0%)	70 (100%)
School feeding programs enhance psycho-motor ability in sporting activities	70 (100%)	0 (0%)	0 (0%)	70 (100%)
School feeding programs positively impact students' mental focus and concentration during sports.	58 (82.9%)	2 (2.9%)	0 (0%)	70 (100%)
The school feeding programs play a role in promoting a healthy and active lifestyle through students' involvement in sports.	68 (97.1%)	0 (0%)	2 (2.9%)	70 (100%)
School feeding programs seem to influence students' decisions to engage in sports activities regularly.	59 (84.3%)	2 (2.9%)	9 (12.9%)	70 (100%)
Schools feeding programs influence students' interest in sports	65 (92.9%)	3 (4.3%)	2 (2.9%)	70 (100%)
School feeding programs encourages students to participate in sports	54 (77.1%)	7 (10%)	9 (12.9%)	70 (100%)

**Key:** A=agree, N=neutral, D= disagree, f= frequency

**Source:** Field Data (2024)

Table 2 shows that the sub-items school feeding program enhance a culture of sports and physical activity among students 70 (100%), school feeding program contributes to students'

physical fitness for participating in sports activities 70 (100%), school feeding programs enhance psycho-motor ability in sports activities 70 (100%), and improvement of attention to students during sports activities 70 (100%) were regarded by the respondents as the most significant factors that influence students participation in sports activities. These findings are supported by Stewart and Smith (2020) and Mollel and Otieno (2022) whose findings showed that well-nourished students exhibit better endurance, strength, and overall physical health, which translates into more enthusiastic and active participation in sports. These findings also concur with a study by Persson and Flodmark (2017) who found that, while the students displayed somewhat less interest in physical activity, they still met the recommended levels of activity. It implies that, the benefits of school feeding programs among students' highlights their critical role in promoting a culture of sports and physical activity, enhancing physical fitness, and attentiveness during sports activities. Therefore, the government must guarantee continual implementation of school nutrition programs together with provision of physical education in order to optimize their benefits.

The sub-items school feedings increase students' readiness to learn sports activities 69 (98.6%), school feeding programs motivate students to participate in sports 68 (97.1%), and school feeding program plays a role in promoting a healthy and active lifestyle through student involvement in sports 68 (97.1%) were considered as the second most important factors that influence students' involvement in sports activities is school. This finding concurs with Grantham-McGregor (2015) who highlighted the educational benefits of sports programs that increased enrollment, improved behavior, and enhanced cognitive development. This implies that school feeding programs enhance students' readiness to engage in sports activities, as well as promoting a healthy and active lifestyle. It is recommended that schools should continue to invest in and expand these initiatives, ensuring all students have access no nutritious meals.

The sub-items on schools feeding programs influences students' interest in involvement in sports 65 (92.9%) was considered by respondents as important factor in ensuring students' participation in sports. The findings concur with Buchanan et al. (2023) who emphasize the role of healthy diet and physical activity in raising students' interest in sports activities and improving their participation. This underscore the importance of schools to integrate these programs with structured sports activities and provide adequate resources to support students' physical health and fitness.

The sub-items on students' decisions to engage in sports activities regularly 59 (84.3%), school feeding program positively impacts students mental focus and concentration during sports 58 (82.9%), school's feeding program encourages students to participate in sports 54 (77.1%) were considered by respondents as most influential factor that make students participate in sports. These findings are consistent with Wang and Fawzi's (2020) who stressed that nutrition is critical in shaping both physical and mental development to students to participate in sports.



The findings are also consistent with Dobbins et al. (2013) and Lago and Quirap (2022) who found that school feeding programs play a role in addressing malnutrition and supporting student health. This implies that school feeding programs significantly influence students' regular engagement in sports activities, enhance their mental focus and concentration during sports, and encourage overall participation in school sporting programs. It is recommended that schools have to continue implementing and potentially expanding their feeding programs in order to promote students' involvement in sports and improve their academic and athletic performance.

The qualitative findings aligned with the quantitative findings as they indicated that the feeding programs were related with students' participation in sports. The respondents, especially heads of schools, said that there is a relationship between feeding program and sports participation. HOS2 and HOS3 proved this by saying the following

*There is a relationship because a student cannot play well if they are hungry as they lack energy. Also, food motivates students to enjoy playing. (HOS2)*

*There is a relationship because a student who eats participates better in sports than one who plays while hungry. (HOS3)*

As the respondents believed that there is a relationship between the availability of food and sports participation, some argued that the food programs have to be sustained. Their responses underscored the need for the programs to be sustained. For instance, HOS3 and HOS4 had the following to say:

*The government should emphasize the availability of food in schools so that after eating, students can participate well in sports. (HOS 3)*

*The government should issue directives, newsletters, and publications encouraging parents to contribute food for their children. (HOS 4)*

These quotations imply that it is vital to sustain meal programs so as to enhance the participation of students in sports. According to HOS 3, the government should ensure food is available in schools to enable students to participate effectively in sports. This implies that institutional support is necessary for the success of such programs. HOS 4 suggested that the government has to issue directives, newsletters, and publications to encourage parents to contribute food for their children. The implication of this is that conjoint efforts between the government and parents are essential in maintaining the nutritional support needed for students to participate actively in sports. This combined support can ensure the sustainability and effectiveness of the feeding programs, thereby promoting higher levels of sports participation among students.

**Students' participation in Sports after Introduction of School Feeding Programs**

The third specific objective of the study was to determine improvements in students' participation in sports after the introduction of school feeding programs in primary schools in Ilala District. The findings are presented in Table 3;

**Table 3: Students' participation in Sports after Introduction of School Feeding Programs (n=70)**

Sub-item	A f (%)	N f (%)	D f (%)	Total f (%)
School feeding programs seem to have positively influenced students' involvement in sports activities.	61(87.1%)	3 (4.3%)	6 (8.6%)	70 (100%)
There has been a significant improvement in students' attendance in sports due to the school feeding programs.	70 (100%)	0 (0%)	0 (0%)	70 (100%)
School feeding programs appear to have contributed to a positive change in students' attitudes towards sports.	70 (100%)	0 (0%)	0 (0%)	70 (100%)
School feeding programs help to eradicate malnutrition hence students feel more comfortable in joining sports activities.	65(92.9%)	0 (0%)	5 (7.1%)	70 (100%)
School feeding programs improve students' health which make them active in sports.	70 (100%)	0 (0%)	0 (0%)	70 (100%)
School feeding programs help in improving student's psychological well-being which makes students active in sports.	70 (100%)	0 (0%)	0 (0%)	70 (100%)
Since feeding programs were introduced, students' participation in Sporting activities has improved	70 (100%)	0 (0%)	0 (0%)	70 (100%)
After introduction of feeding programs, students positively participated in sporting activities	69 (98.6%)	1 (1.4%)	0 (0%)	70 (100%)
Students becomes more motivated to participate in sporting activities after introduction of feeding programs	69 (98.6%)	1 (1.4%)	0 (0%)	70 (100%)
After introduction of feeding programs, students increase their skills and interests in sporting programs	70 (100%)	0 (0%)	0 (0%)	70 (100%)

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There has been significant improvement in students' attendance in sports activities after introduction of feeding programs	67 (95.7%)	3 (4.3%)	0 (0%)	70 (100%)
After introduction of feeding programs, students changed their attitudes on participating in sporting activities	69 (98.6%)	1 (1.4%)	0 (0%)	70 (100%)
Introduction of feeding programs has enhanced the sports culture in sporting activities	69 (98.6%)	1 (1.4%)	0 (0%)	70 (100%)
Introduction of feeding programs has enhance students' behaviors toward sports activities	70 (100%)	0 (0%)	0 (0%)	70 (100%)
After introduction of feeding programs facilitates student's health and become active in sporting activities	70 (100%)	0 (0%)	0 (0%)	70 (100%)

**Key:** A=agree, N=neutral, D= disagree, f= frequency

**Source:** Field Data (2024)

The findings in the Table 3 show that school feeding programs have a significantly positive influence on students' involvement in sports activities is . The sub-items improvement in students' attendance in sports due to the school feeding programs 70 (100%), contributing to a positive change in students' attitudes towards sports 70 (100%), improvement on Students' health which make them active in sports 70 (100%), improvement on Students' psychological well-being which makes students active in sports, increase Students' participation in sports activities 70 (100%), increase skills and interests in sporting programs 70 (100%), enhance Students' behaviors toward sports activities 70 (100%), and facilitates students health and become active in sports activities 70 (100%) were considered by the respondents as most influential to students' participation in sports.

The findings concur with Buchanan et al. (2023) and Dortch et al. (2014) who emphasize the interconnected benefits of nutrition and physical activity in fostering a healthy and engaged student to participate in sports. This implies that the introduction of feeding programs in schools has improved students' engagement in sports by enhancing their physical health and energy levels through regular nutritious meals, resulting in better attendance, a positive shift in attitudes towards sports, increased participation, and improved behavioral discipline. Thus, it is recommended that schools should continue and expand feeding programs to further enhance students' well-being and engagement in sports.

The sub-items after introduction of feeding programs, students positively participated in sports activities 69 (98.6%), students become more motivated to participate in sports activities after introduction of feeding programs 69 (98.6%), after the introduction of feeding programs

students changed their attitudes in participating in sports activities 69 (98.6%) and introduction of feeding programs enhance sports culture in sports activities 69 (98.6%) were regarded by participants as the factors that influence students participation in sports.

The sub-items on improvement in Students' attendance in sports activities after introduction of feeding programs 67 (95.7%), eradication of malnutrition hence students feel more comfortable in joining sports activities 65(92.9%), and school feeding programs positively influence students' involvement in sports activities 61 (87.1%) were considered by the respondents as another important factors that influence Students' participation in sports

The qualitative findings from interviews and focus group discussions with heads of school and students supported the quantitative findings . The findings indicated that meal programs had contributed to a marked increase in students' participation in sports. HOS 1, for instance, observed that students were more energetic and willing to participate in sports after getting food between noon and 1 p.m., which means that the timing of meals can also play a crucial role in ensuring students have the energy to engage in physical activities. FDG 5 noted a significant rise in the number of students involved in sports, attributing this to the motivation derived from being well-fed. This implies that meal programs are crucial in boosting students' energy levels and their overall willingness to engage in sports activities.

The participants highlighted a relationship between food provision and participation in sports. HOS 2 emphasized that students cannot perform well in sports while hungry, as they would not have the energy necessary for engaging in vigorous activities. They argued that food acts as a motivator as it leads to enjoyment. This indicates that nutritional support is crucial for maintaining both the physical and mental readiness to engage in sports. HOS 3 echoed this sentiment, arguing that well-fed students participate more actively and effectively in sports compared to those who are hungry. This underscores the importance of nutritional support in fostering active and enthusiastic sports participation among students, highlighting the direct link between adequate nutrition and physical performance in sports activities

The qualitative findings further corroborated the quantitative findings as they showed that students' participation in sports activities such as UMITASHUMITA improved commendably after the introduction of feeding programs. Responses from students and heads of schools who participated in FGDs and interviews respectively underscored the improvement in students' participation in sports as a result of the food programs in schools. The following excerpts provide evidence for this.

*Student participation in sports has increased, especially when they receive food between noon and 1 p.m.; they are more energetic when called to the field. (HOS 1)*

*The number of students participating in sports has increased; they are motivated to play when they are well-fed (FDG 5).*

The findings agree with study by Drenowats and Greire (2018) who revealed that food is an important influencer of the health and hence one's ability to engage in physical activities. This implies that the food programs have a crucial role in promoting student's involvement in sports. The findings are also consistent with Mukhamedzhanov et al. (2023) who found that students who get food at school exhibit improved nutrition attitudes, behaviors, and higher sports performance compared to control groups. Likewise, the findings support Mollel and Otieno (2022) who emphasize the role of food programs in enhancing student's enthusiasm and engagement in physical activities. It implies that feeding programs have the potential to significantly improve student's participation in sports activities by increasing their motivation, ameliorating their attitude towards sports, and strengthening their sports culture

## **CONCLUSION**

As per the findings, this paper concludes that school feeding programs have a positive impact on students' well-being and participation in sports. This is evidenced by the fact that before the introduction of the programs there were many children with malnutrition and low fitness levels, which hindered their engagement in sports activities. The introduction of feeding programs significantly contributed to their physical fitness, mental focus, and overall readiness to participate in sports activities. They improved students' physical and mental health as well as attitudes toward sports by promoting a culture of sports and physical exercise. Further, they improved the abilities, passion, and engagement of students in sports, thus encouraging an active and healthy lifestyle as well as a positive sports culture in schools.

## **Recommendations**

The paper recommends the following:

First, to ensure that meals are provided on time and consistently, school administrators have to create specialized teams to oversee and administer the school feeding programs. Second, there should be awareness raising programs to make parents and guardians informed about the benefits of school feeding programs and their role in improving their children's participation in sports while at school and on the significance of encouraging healthy eating habits at home to complement these school feeding programs.

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