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Research Article

Problems Encountered by School-Based Feeding Program Beneficiaries and Their Academic Performance

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ABSTRACT

This study aimed to determine problems encountered by School-Based Feeding Program beneficiaries and their academic performance in selected public school of Subic. This study was limited only to the three hundred forty (340) SBFP recipients of grade 4-6 elementary students in the District of Subic who were randomly selected. The study used descriptive survey method design.

The major findings include the following: There was significant difference between the academic performance of students before and after the implementation of the school-based feeding program. Social, Behavioral and Economic problems encountered had low negative relationship with academic performance of beneficiaries before and after the implementation. The null hypothesis was rejected; hence there is significant relationship between the problems encountered and the academic performance of SBFP.

The following recommendations are Employed parents may not take their child's health nutritional status for granted by ensuring enough time to supervise their feeding habits of their child. School feeding coordinators may also look into the problems of the beneficiaries and not just providing them food during feeding time. School advisers and teachers may collaborate with parents/guardian of the SBFP beneficiaries in minimizing and eliminating the sources and cause of problems to attain higher level, if not the highest level of academic performance.

Keywords: *Academic Performance Behavioral, Economic, School-Based Feeding Program, Social*

Background

Education is and will always be very important in building a strong foundation in one's life. It plays key roles as to what the child may become after years of studying. Good education is very necessary for all to go ahead in life and to be successful. However, not all children in the country receives adequate and wholesome

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education, even though the government of the Philippines initiated different programs to make education available to everyone.

One of the main reasons why there are children who do not receive adequate education is because of Poor Nutritional Status. In fact, it is one of the major causes of low academic performance and productivity in primary education which may affect the physical and cognitive development in children during their early years of life. (Does,1996). Levels of stunting, underweight, severely wasting and overweight have remained essentially unchanged for the past decades (FNRI, 2012). Malnutrition will stay if there is poverty.

To alleviate these problems and to address the issue of hunger and lessen malnutrition among school children DSWD and DEPED are each allocating less P 2000 per child for 120 days of feeding. However, not all problems of the SBFP beneficiaries can be addressed by the program. Based on Abraham Maslow's hierarchy of needs, when the fundamental needs are fulfilled, they do not go away, rather they motivate further. Considering that nutritional food grants given by the school-based feeding program of the government fulfilled one of the major physiological needs of the students, psychological needs arise. These psychological needs can be attributed to the students' social, behavioral, and economic problems that they encounter in their day to day living.

Considering the above-mentioned issues, the researcher was encouraged to conduct this study to determine the social, behavioral, and economic problems affecting grades 4-6 SBFP beneficiaries and their academic performance in the selected public schools in the district of Subic.

Literatur Review

The Department of Education (DepEd), through the Bureau of Learner Support Services-School Health Division, implements the School-Based Feeding Program (SBFP) for Fiscal Year 2018, in accordance with the General Appropriations Act (GAA) for the current year and covers all identified target beneficiaries.

The SBFP provides feeding to learners, prioritizing the Severely Wasted (SW) and Wasted (W), and all Kinder in selected Philippine Plan of Action for Nutrition (PPAN) areas. It also improves the nutritional status of the SW/W and all Kinder (PPAN areas) learners at the end of at least 120 feeding days and ensures 100% deworming of target beneficiaries prior to the feeding activity.It also promotes health and nutrition information and awareness among target beneficiaries through the K to 12 Curriculum and its alternative modalities of education; and encourages Gulayan sa Paaralan Program (GPP) and backyard vegetable gardening to augment the feeding program and to complement the nutrition and poverty-reduction initiatives of the Government. DepEd Order No. 39, s. 2017 entitled Operational Guidelines on the Implementation of the School-Based Feeding Program shall also be used as reference in the implementation of the program. The Department of Education will continue to implement School-Based Feeding Program (SBFP) nationwide in accordance with the General Appropriations Act (GAA) for the current year and will cover all identified target beneficiaries. The program upholds its objectives in the improvement of classroom attendance of target beneficiaries to more than 85% per year, and encourage learners to go to school every day.The priority target beneficiaries for School-Based Feeding Program (SBFP) shall be all undernourished (SW/W) Kinder to Grade 6.

Health and Nutrition is integral to the total development of the child: physically, mentally, emotionally, and spiritually. Studies showed that undernourished children perform poorly in class. Ideally, health and education should have a symbiotic relationship, if only to get the full benefit of education. The program's short history has seen moderate success to develop the learning capabilities of malnourished young children by improving their health and nutrition. The initial results of the study were discussed by a panel of DepED officers and PIDS researchers at a seminar held at PIDS recently.

Albert and his co-researchers reviewed the conduct of the SBFP in eight schools across the country during school year 2013-2014. They analyzed the results against the program's objectives: (1) that 70 percent of the beneficiaries must have been rehabilitated at the end of the 100-120 day feeding program, (2) that 85-100 percent of the beneficiaries attend school, and

(3) that there is observable improvement in health, nutrition values, and behavior.

The researchers interviewed the team of school parents, teachers, parent volunteers, and DepED staff who together handle the procurement of supplies and finances, and conduct deworming and other complementary programs that enhance the results, which include waste management, in-house gardening, and health monitoring. They were interviewed about the program's procedures, issues, challenges and lessons, the performance of the children, and how they perceived the implementation and management of the SBFP. The researchers found out that beneficiaries and stakeholders laud the program. As a result, the health, class attendance and performance, and social behavior of the students improved. The program, the researchers noted, also helped cultivate "a culture of care and active participation among all stakeholders".Amid all the success, however, the researchers point out important challenges, starting with data gathering inconsistences and the lack of standard weighing measurement. "Clearly, any encoding and measurement errors on the nutrition status data have implications on the targeting accuracy of the program as well as on correct assessment as to whether stated goals are attained (or not)," according to the study. This threatens to misclassify the nutrition status of children, which may cause fundamental problems for the program. Classification not only determines the effectivity of the program but is also crucial to building the database of identified malnourished children.

In an article "The Wellness Impact: Enhancing academic success Through healthy School Environments" (2013), environment to which children are exposed (unhealthy foods, lack of areas for physical activities, bullying or unsafe neighborhoods) influences how children think, feel and respond. The mind-body connection, therefore, becomes a genuinely important concept. What we think affects our health and vice versa: our health impacts how we think. Brain functions can be enhanced in order to improved children's ability to learn. Research on the area of the brain that control functions relative to thinking, concentration and acting (or not) on impulse- a network involving the prefrontal cortex- indicates that the school environment is key to the development of these areas.

Lahey and Rosen (2010), in their research, they fournd out that nutrition affects learning and behavior and suggested that diet can influence cognition and behavior in many ways, which include the condition of not enough nutrition or the condition of the lack of certain nutrients.

According to World Food Programme 2014, hunger is one of the most pervasive and damaging phenomena for millions of children today; It has far-reaching effects on the development of both individuals and nations. Hunger negatively affects the brain development of children and impedes their chances of educational success later on. Hunger, poverty and poor education are interdependent. When children are hungry, chances that they would attend school are limited, and without education, their chances of breaking the poverty trap are significantly reduced.

Adelman S. 2001, Also opined that both acute and chronic hunger affect children's access to school, their attention span, behaviour in class and educational outcomes. Studies have shown that children suffering from short-term hunger, as a result of skipping breakfast, for example, have difficulty concentrating in class and performing complex tasks.

The social and economic development of the country is directly linked with student academic performance. The students' performance (academic achievement) plays an important role in producing best quality graduates who would become great leader and manpower for the country thus it is the responsibility of the country and the government to provide quality education among its young citizens (Ali et.al, 2009). There are lots of factors affecting the academic performances of students; one of the most significant factors is eating breakfast. There are lots of researches and evidences that suggest that breakfast consumption may improve students' cognitive function related to memory, test grades, and school attendance. Breakfast as part of a healthful diet and lifestyle can positively impact children's

health and well-being. Parents should be encouraged to provide breakfast for their children. Studies have shown that there is an association between hunger, poor dietary intakes, stunting, underweight, and poor school performance among students who did not eat breakfast everyday (Mc-Gregor, 2005).

In the Philippines, about 6 to 8% of children under five years old were wasted, and about 2% were severely wasted. About a third of children under five in the Philippines have stunted growth, and a fifth is underweight (Albert, 2015). When children under five are experiencing malnutrition, they are likely to carry this over to early childhood, which has repercussions on learning achievements in school. In consequence, government has developed feeding programs to reduce hunger, to aid in the development of children, to improve nutritional status and to promoting good health, as well as to reduce inequities by encouraging families to send their children to school given the incentive of being provided school feeding.

One of the programs that the Philippines had implemented to mitigate and improve the academic performance of the students along with their attendance is through school feeding program. The focus of the Department of Education which is the chief implementer of the school feeding programs is to deal with under nutrition or malnourished student which is very common among Filipino school-age children. In 2012, for instance, the Nutrition Status Report of DepEd identified more than half a million severely wasted children enrolled in the country's public elementary schools (Albert, 2015).

Chronic absenteeism or missing more than 10 percent of the total school days of schooling occurs higher in poor areas. A student being absent for three days in a month strongly correlates with poor performance (Sparks, 2012). That is three days multiplied by ten months of schooling is equal to thirty days of absence in the school which is more than 10 percent of the total school days in the Philippines. Majority of chronically absent students are impoverished, dealing with such daily stresses as caring for siblings, high rates of disease, violence in the community, frequent familial moves to find employment, child labor and lack of sufficient health and food (Cutillo, 2013).

In the theory of Abraham Maslow's Hierarchy of Needs he suggested that before individuals meet their full potential, they need to satisfy a series of needs. The very foundation of every individual's need is physiological needs such as Clothing, shelter, air, water, and food. These physiological needs are very important, if these requirements are not met, the human body cannot function properly and would ultimately fail. Physiological needs are thought to be the most important; they should be met first. In relation to this, a child who did not met his physiological needs would result in a problem in his study habit. If a student went to school to study and yet his stomach is empty, academic understanding and performance of the student is disrupted compared to a student who eats breakfast or lunch before coming to school.

Research shows that children with minerals and vitamins deficiencies sufficient to cause anemia are at a disadvantage academically. Food insufficiency is a serious problem affecting children's ability to understand and improve their academic performances (Taras, 2005).

Well-being does not only come from economic factors but also on relations with people and relations with ideas (MacAulan & Riemschneider, 2011).

"What people are not doing is looking at positive effects of good nutrition, in particular on social behavior," said Raine, a Penn Integrates Knowledge professor with appointments in the School of Arts & Sciences and Medicine. "We link nutrition not only to physical health but also to social health and positive social behavior." (Jianghong Liu 2016) Social interactions studied included friendliness, extent of verbalization, active social play and exploratory behavior. A research assistant observed every child's success and rated these factors on a specified scale. The observer knew that the research concentrated on child development and behavior but was unaware of the nutrition-related hypothesis. Examining the relationship between these components after the fact, Liu and Raine then test out a neurocognitive link between nutrition and comprehensive social behavior. It's a connection undiscovered to this

point. "The bigger message is give children good nutrition early on," Liu said. "Not only will it enhance cognitive function but, importantly, promote good social behavior," which is essential to brain development and intelligence.

The Theoretical bases of this study will be the Maslow's Hierarchy of Needs theory, Spillover effect, Tinto's Integration theory and Spady's sociological theory. Maslow proposed a hierarchal model of human needs, such as basic needs at the bottom and higher needs at the top. Spillover effect refers to the tendency of one person's emotion to affect other people around them. Tinto's integration theory suggests that learners are affected by social system and academic system of an institution or school. Lastly in Spady's sociological theory, learning of students must be measured through their output and demonstration of learning rather than test scores.

Materials and Methods

The study used descriptive survey method design to identify the profile of the respondents and to determine the social, behavioral and economic problems affecting Grade 4-6 SBFP's beneficiaries and the effect in their academic performance in the Public School of Subic, Schools Division of Zambales. The total number of the respondent were the 340 SBFP recipients from five selected public schools in Subic which includes Mapanao Elementary, Sto. Tomas Elementary School, Matain Elementary School, San Isidro Elementary School and Naugsol Integrated School.

The main instrument used in data gathering was a survey questionnaire. The first part of the questionnaire includes the profile of the student-respondents as to their sex, age, Occupation of parents/guardian, monthly family income, number of siblings, Nutritonal status before and after the feeding and the general average for the 1st and 3rd grading period. The second part of the questionnaire deals on the perception of the grades 4-6 SBFP beneficiaries on their social, behavioral and economic problems. Questionnaires used in the study was validated and already used in another study entitled "Social, behavioral and Economic Factors affecting Grade 7 Junior High School Recipients of 4P's" (Salva, 2018). The researcher conducted a pilot test to assure reliability of the item indicators and used cronbach's alpha to test the reliability.

Approval of the advisers of the beneficiaries for their report card as the document source of the grades.

The researcher requested approval from the Superintendent and principal to distribute and administer the instrument. The data that gathered from the survey questionnaire was tallied, tabulated and interpreted accordingly through the use of Frequency and Percentage Counts, Weighted Mean, Analysis of Variance (ANOVA), T-Test, BMI Scale (Body Mass Index), Likert scale, and Pearson - Product Moment Correlation Coefficient (Pearson-r). as statistical tools.

Results and Discussion

Table 1 presents the frequency and percentage distribution of the program recipients in terms of their profile variables.

***Age*.** Greater proportion (28.24%) or 96 out of 340 SBFP beneficiaries are nine years old while there were ten (2.94%) who are 13 years of age. The mean age 10.25 years indicates that the recipients are at their late school age. This implies that the beneficiaries are expected to be more capable, independent and responsible. This characteristic is consistent to "The Developing Person through Childhood and Adolescence" of Ngozi Oguejiofo (n.d) that a school-age child has greater motor skills and begins to develop secondary sexual characteristics. Peer relationships become important here and are typically with members of the same sex.

***Sex*.** Majority (52.65%) or 179 of the 340 recipients were female and there were 161 (47.35%) male beneficiaries. This indicates that female grade school learners show more indications of being underweight.

***Occupation of Parents/Guardian*.** Higher percentage (37.35%) of the beneficiaries have parents with regular employment and there were 15 (4.41%) out of 340 recipients whose parents are farmers. This implies that parents and guardians who have regular employment lack supervision to their children's feeding as compared to those of the famers, vendors, fisher folks and construction workers. This may

be explained with that fact that the latter parents have more time to supervise their children's nutritional needs.

According to the SWS survey, an estimated 7.4 million families considered themselves "food-poor" in the third quarter of this year, similar to the 32 percent posted in June. Self-rated food poverty averaged 31 percent in 2016 and 35 percent in 2015 (http://news-info.inquirer.net/949324/sws-survey-on-poverty-sept-23to27#ixzz50AJKHdm3)

Monthly Family Income. Majority (75.29%) or 256 out of 340 beneficiaries have a monthly family income below PhP 10,000 while there were 2 (0.59%) with P20,000 – 29,999 family income per month. The average PhP 7,160.29 indicates that the families of the SBFP recipients are significantly below the twenty-two thousand pesos estimated minimum required family income per month as stated in Bersales (2015).

Number of Siblings. Greater proportion (37.65%) or 128 of the 340 beneficiaries have 3 – 4 siblings and there were 11 (3.24%) recipients who have nine or more siblings. The average number of siblings 3.96 indicates that the families of the beneficiaries compose of six members including their parents. Majority of chronically absent students are impoverished, dealing with such daily stresses as caring for siblings, high rates of disease, violence in the community, frequent familial moves to find employment, child labor and lack of enough health and food (Cutillo, 2013).

Baseline Nutritional Status. Majority (71.76%) or 244 of the 340 beneficiaries are on "wasted" nutritional status and there were 96 (28.24%) who belonged to "severely wasted" before the implementation of the SBFP. Wasted and severely wasted pupils were purposively selected to undergo the feeding program. Research shows that children with minerals and vitamins deficiencies enough to cause anemia are at a disadvantage academically. Food insufficiency is a serious problem affecting children's ability to understand and improve their academic performances (Taras, 2005).

End Line Nutritional Status. Majority (68.24%) of the 340 beneficiaries have attained the "normal" nutritional status while there were 14 (4.12%) who remained "severely wasted. This indicates partial success of the implementation of feeding program in the schools. Those who remained "severely wasted" shall remain enlisted as recipients of the program. In the Philippines, about 6 to 8% of children under five years old were wasted, and about 2% were severely wasted. About a third of children under five in the Philippines have stunted growth, and a fifth is underweight (Albert, 2015).

Table 1. Frequency and Percentage Distribution of SBFP Recipients in term of Profile Variables

Variable	Category	Frequency	%
Age (Mean = 10.25 y.o.)	8 years old	13	3.82
	9	96	28.24
	10	91	26.76
	11	84	24.71
	12	44	12.94
	13	10	2.94
	14 years old	2	0.59
Sex	Male	161	47.35
	Female	179	52.65
Occupation of Parents/Guardian	Farmer	15	4.41
	Vendor	63	18.53
	Fisherfolk	25	7.35
	Construction Worker	110	32.35
	Regular Employment	127	37.35

Variable	Category	Frequency	%
Monthly Family Income (Mean=PhP 7,160.29)	Below PhP 10,000	256	75.29
	10,000 – 19,999	78	22.94
	20,000 – 29,999	2	0.59
	30,000 and Above	4	1.18
Number of Siblings (Mean= 3.96)	0 – 2	92	27.06
	3 – 4	128	37.65
	5 – 6	79	23.24
	7 – 8	30	8.82
	9 and Above	11	3.24
Baseline Status	Severely Wasted	96	28.24
	Wasted	244	71.76
End-line Status	Severely Wasted	14	4.12
	Wasted	93	27.35
	Overweight	1	0.29
	Normal	232	68.24

Problems Encountered by SBFP Beneficiaries

Table 2 presents the mean responses of SBFP beneficiaries pertaining to how frequent they encounter situations in their social environment. The SBFP beneficiaries rated highest mean (2.41) on the ninth item, which indicates that they seldom become victims of bullying. This may be explained by their low physical and mental attributes as a beneficiary of the program. They rated the eight item a lowest mean weight of 2.06, which reveals that they seldom encounter problems communicating with their classmates. The composite value 2.25 indicates that the beneficiaries seldom encounter difficulties socializing with their friends and schoolmates, as well as with their teachers. They tend not to join and communicate with groups to find friends due to fear of being judged and bullied. Their nutritional status as feeding program beneficiaries hinders them to attend and participate in extra-curricular activities inside and outside the school and interact with their social environment.

Table 2. Social Problems Encountered by SBFP Beneficiaries

	Social Problems	Wt. Mean	Q.I.
1.	I am having a hard time finding new friends.	2.25	Seldom
2.	I am having problems making myself recognized inside school.	2.30	Seldom
3.	I am having problems in acquainting myself to social groups.	2.19	Seldom
4.	I am having problems in joining different groups.	2.23	Seldom
5.	I am having problems being in the group.	2.24	Seldom
6.	I am having problem in attending inside or outside school ac-	2.34	Seldom
7.	I am having problems attending school's extracurricular activ-	2.36	Seldom
8.	I am having problems communicating with my classmates.	2.06	Seldom
9.	I am prone of being bullied.	2.41	Seldom
10.	I am easily judged by other people.	2.12	Seldom
	Composite	2.25	Seldom

This finding supports the findings of Liu (2016) that not only will good nutrition enhance cognitive function but, importantly, promote good social behavior which include friendliness, extent of verbalization, active social play and exploratory behavior.

Table 3 shows the mean responses of SBFP beneficiaries pertaining to how frequent they encounter or exhibit behavioral manifestations. The program beneficiaries seldom (2.24) have trouble in understanding the behavior of other people they mingle with showing their highest mean rating on the fifth item. The lowest mean rating (1.86) indicates that they seldom exhibit disrespect toward their teachers. The composite value 2.00 reveals that the program beneficiaries seldom manifest behavioral problems such as bad oral and physical attitudes as well as unpleasant study habits. This implies that they have the tendency to show low performance in their classes.

Table 3. Behavioral Problems Encountered by SBFP Beneficiaries

Behavioral Problems	Wt. Mean	Q.I.
1. I tend to engage in fighting.	2.04	Seldom
2. I say bad words against my classmates.	1.95	Seldom
3. I mess up other people.	1.88	Seldom
4. I argue with my classmates.	2.12	Seldom
5. I don't understand the behavior of other people.	2.24	Seldom
6. I tend to copy others homework.	1.99	Seldom
7. I don't listen to my teachers.	1.98	Seldom
8. I don't respect my classmates.	2.04	Seldom
9. I don't respect my teachers.	1.86	Seldom
10. I say foul words to others e.g. classmates, teachers, friends	1.92	Seldom
Composite	2.00	Seldom
SUMMA`REMARKS/COMMENTS/SUGGESTIONS		

This finding adheres to the findings of Lahey and Rosen (2010), who found out that nutrition affects learning and behavior, and suggested that diet can influence cognition and behavior in many ways, which include the condition of having not enough nutrition.

Table 4 shows the mean responses of SBFP beneficiaries pertaining to how frequent they encounter situations that involve their financial needs.

Having the highest mean rating (2.32), the ninth item indicates the feeding program recipients seldom experience hard time paying communication fees like cellphone loads or mobile data. This implies that the learner beneficiaries put greater importance on having internet connectivity while in school. This can be explained by their avoidance mingling with peers or other people and make themselves busy with their electronic gadgets. The lowest mean rate 2.09 indicates that they seldom find it hard to go to school due to insufficiency of budget for their transportation. A more serious concern, as indicated by the composite value 2.15, is that they seldom do not have enough money to provide for their school fees, projects, and school supplies and most especially for buying nutritious foods while in school. This implies that they cannot perform better in school academic and non-academic activities because of temporary hunger or lack of food intake.

Table 4. Economic Problems Encountered by SBFP Beneficiaries

Economic Problems	Wt. Mean	Q.I.
1. I find it hard to pay legal school fees (BSP, etc.).	2.11	Seldom
2. I am having problems contributing money to group projects.	2.15	Seldom
3. I am having problems in buying necessary school supplies.	2.06	Seldom
4. I am having problems buying materials to have an attractive projects/outputs.	2.21	Seldom
5. I am having problems buying nutritious foods.	1.99	Seldom
6. I am having problems getting enough school allowances.	2.14	Seldom
7. I am having problems buying uniform and shoes for my schooling.	2.16	Seldom
8. I am having problems paying transportations.	2.09	Seldom
9. I am having hard time paying communication fees like cellphone loads or mobile internet/Data.	2.32	Seldom
10. I am having problems buying things that *"I want".*	2.31	Seldom
Composite	**2.15**	**Seldom**

This findings adhere to the findings of Adelman (2001) who opined that both acute and chronic hunger affect children's access to school, their attention span, behavior in class and educational outcomes. Studies have shown that children suffering from short-term hunger, as a result of skipping breakfast, for example, have difficulty concentrating in class and performing complex tasks.

Table 5 presents the academic performance of the SBFP beneficiaries before (first grading) and after (third grading) the implementation of the feeding programs in each school.

The feeding program beneficiaries in School 1 garnered the lowest mean grade both in the first rating period (78.31) and in third rating period (79.73). However, it can interpreted that from a fairly satisfactory level before the feeding program, they attained the satisfactory level of academic performance after the implementation of SBFP. School 3 garnered the highest mean grade both in the first rating period (81.86) and in third rating period (83.41), both qualitatively interpreted as satisfactory level of academic performance. School 5 showed the lowest mean difference (0.80) which indicates that the learners had the slightest improvement in their academic performance.

Table 5. Academic Performance of Beneficiaries Before and After the Implementation of SBFP

School	First Rating Period		Third Rating Period		Mean Difference
	Mean	Qualitative Interpretation	Mean	Qualitative Interpretation	
School 1	78.31	Fairly Satisfactory	79.73	Satisfactory	1.42
School 2	79.00	Fairly Satisfactory	80.21	Satisfactory	1.21
School 3	81.86	Satisfactory	83.41	Satisfactory	1.54
School 4	79.72	Satisfactory	80.74	Satisfactory	1.02
School 5	79.52	Satisfactory	80.32	Satisfactory	0.80
Overall Mean	79.68	Satisfactory	80.94	Satisfactory	1.26

The overall mean grade of the beneficiaries in the first rating period (79.68) and in third rating period (80.94) garnered a mean difference of 1.26. Both mean ratings (first and third) can be interpreted as satisfactory academic performance and the low mean difference denotes slight change in their academic performance before and after the implementation of the feeding program. These findings adhere to the finding of Santos (2017) that academic

performance (in all domains) of recipients improve after the implementation of the school-based feeding program.

Difference in the Academic Performance of Beneficiaries Before and After the Implementation of SBFP

Previous table and discussion in this chapter revealed a slight increase in the average grades of the SBFP beneficiaries from the first to the third rating period. The mean differences in each school also revealed an improvement in the academic performance of the program beneficiaries. To test the null hypothesis on non-significant difference between the academic performance of the beneficiaries on the first and third rating period, a paired sample t-test was conducted with results shown in Table 6.

It can be seen from the table 6 that schools 1 (t=3.616), 2 (t=6.579), 3 (t=6.620), 4 (t=4.193) and 5 (t=3.007) had Sig. (2-tailed) values less than the set alpha level (α=.05), hence significant difference. Overall, the computed value of t=9.748 had significant value .000 which is less than α=.05. This prompted the researcher to reject the null hypothesis. Hence, there is significant difference (in each school and overall) between the mean grades of the beneficiaries on the first and third rating period. This proves a significant difference in the academic performance of the beneficiaries before and after they underwent school feeding program. This implies that sufficient food nutrients plays is an important factor in the cognition and attitude of learners, hence academic performance.

Table 6. Paired Samples t-Test between Academic Performances of Beneficiaries Before and After SBFP Implementation

School	Paired Differences			t	df	Sig. (2-tailed)	Interpretation
	Mean	S.D.	Std. Error Mean				
School 1	1.417	3.591	.392	3.616	83	.001	Significant
School 2	1.212	1.698	.184	6.579	84	.000	Significant
School 3	1.543	2.098	.233	6.620	80	.000	Significant
School 4	1.020	1.720	.243	4.193	49	.000	Significant
School 5	.800	1.682	.266	3.007	39	.005	Significant
Overall	**1.265**	**2.392**	**.130**	**9.748**	**339**	**.000**	**Significant**

These findings adhere with the findings of Lahey and Rosen (2010) that nutrition affects learning and behavior and suggested that diet can influence cognition and behavior in many ways, which include the condition of not enough nutrition or the condition of the lack of certain nutrients. Jomaa, et al (2011) also showed that school-based feeding program improve cognition of children.

***Difference on the Problems Encountered by SBFP Beneficiaries*.**

Profile variables age, sex, parent occupation, family income, number of siblings and nutritional status was hypothesized to contribute in the variations on problems encountered by the SBFP beneficiaries. Below are tests on significant differences in social, behavioral and economic problems encountered by the program recipients.

Difference in Social Problems Encountered. Table 7 presents the summarized ANOVA table on social problems encountered when SBFP beneficiaries are grouped according to their profile variables.

It can be seen that among the profile variables, only age (F=3.237) had significant value (Sig.=.004) that is less than the set alpha level (α=.05). This signifies rejection of the null hypothesis; hence, there is significant difference on the social problems encountered when SBFP beneficiaries are grouped according to age. This implies that feeding recipients with different age experience varying social problems. Groeneveld (2007) assesses the prevalence of stunting and underweight school children 8 to

10 years' old who were in high or low socio economic status. It also implies that regardless of sex, parent's occupation, family financial status and size, and nutritional status, recipients of the feeding program experience the same problems dealing with their social environment.

Based on the Researcher's observation, those beneficiaries ages elder than other beneficiaries are considered to be more emotionally, psychologically, mentally and socially mature compare to other lower levels. Those elder specifically from 11-13 years of age had undergone complexities of experiences that somehow refine and makes his /her personhood a better individual that as he grows older, the lesser and the more social problems are observed.

Table 7. ANOVA on the Social Problems Encountered when SBFP Beneficiaries are Grouped According to Profile

Profile Variable	Source of Variance	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Age	Between Groups	6.438	6	1.073	3.237	.004	Significant
	Within Groups	110.392	333	.332			
	Total	116.830	339				
Sex	Between Groups	1.157	1	1.157	3.381	.067	Not Significant
	Within Groups	115.673	338	.342			
	Total	116.830	339				
Occupation of Parents/ Guardian	Between Groups	2.181	4	.545	1.493	.176	Not Significant
	Within Groups	114.649	335	.342			
	Total	116.830	339				
Monthly Family Income	Between Groups	2.449	3	.816	2.398	.068	Not Significant
	Within Groups	114.381	336	.340			
	Total	116.830	339				
Number of Siblings	Between Groups	2.301	4	.575	1.683	.154	Not Significant
	Within Groups	114.529	335	.342			
	Total	116.830	339				
Baseline Status	Between Groups	.075	1	.075	.217	.642	Not Significant
	Within Groups	116.755	338	.345			
	Total	116.830	339				
End-line Status	Between Groups	.971	3	.324	.939	.422	Not Significant
	Within Groups	115.859	336	.345			
	Total	116.830	339				

Difference in Behavioral Problems Encountered. Table 8 presents the summarized ANOVA table on behavioral problems encountered when SBFP beneficiaries are grouped according to their profile variables.

Table 8. ANOVA on the Behavioral Problems Encountered when SBFP Beneficiaries are Grouped According to Profile

Profile Variable	Source of Variance	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Age	Between Groups	2.793	6	.645	1.083	.373	Not Significant
	Within Groups	143.166	333	.430			
	Total	145.959	339				
Sex	Between Groups	9.728	1	9.728	24.137	.000	Significant
	Within Groups	136.230	338	.403			
	Total	145.959	339				
Occupation of Parents/ Guardian	Between Groups	2.312	4	.578	1.348	.252	Not Significant
	Within Groups	143.647	335	.429			
	Total	145.959	339				
Monthly Family Income	Between Groups	1.962	3	.654	1.526	.208	Not Significant
	Within Groups	143.997	336	.429			
	Total	145.959	339				
Number of Siblings	Between Groups	.975	4	.244	.563	.690	Not Significant
	Within Groups	144.984	335	.433			
	Total	145.959	339				
Baseline Status	Between Groups	.367	1	.367	.853	.356	Not Significant
	Within Groups	145.592	338	.431			
	Total	145.959	339				
End-line Status	Between Groups	2.054	3	.685	1.599	.190	Not Significant
	Within Groups	143.905	336	.428			
	Total	145.959	339				

The table shows that among the profile variables, only sex (F=24.137) had significant value (Sig.=.000) that is less than the set alpha level (α=.05). This signifies rejection of the null hypothesis; hence, there is significant difference on the behavioral problems encountered when SBFP beneficiaries are grouped according to sex. This implies that male and female beneficiaries encounter different behavioral problems and experiences. It also indicates that beneficiaries belonging to different age groups, different family status and size, and of different nutritional status manifest and experience the same behavioral problems. Ellerman (2009) bases his indirect approach on the assumption that action consists of motive and behavior. He argues that although behavior is the part that is noticed externally, the motives are also an important part of the action and that autonomous activity will only take based due to internal motives (Ellerman, 2009). It is impossible to alter or create an intrinsic motive solely by extrinsic means because a change in motive will bring about a change in behavior, even though it is possible to buy any kind of behavior. In order for a development program to be successful, both the behavior and the purposes of the people involved have to pitch in. If you try to accomplish a certain behavior via external motivators, the receiver's ethics are bought. If the intrinsic motives of the players are not considered in the actions, the program will probably present different results compared to a case where both behavior and motives are considered in the actions.

Difference in Economic Problems Encountered. Table 9 presents the summarized ANOVA table on economic problems encountered when SBFP beneficiaries are grouped according to their profile variables.

Table 9. ANOVA on the Economic Problems Encountered when SBFP Beneficiaries are Grouped According to Profile

Profile Variable	Source of Variance	Sum of Squares	df	Mean Square	F	Sig.	Interpretation
Age	Between Groups	8.758	6	1.460	3.446	.003	Significant
	Within Groups	141.045	333	.424			
	Total	149.802	339				
Sex	Between Groups	4.575	1	4.575	10.648	.001	Significant
	Within Groups	145.227	338	.430			
	Total	149.802	339				
Occupation of Parents/ Guardian	Between Groups	2.242	4	.561	1.273	.280	Not Significant
	Within Groups	147.560	335	.440			
	Total	149.802	339				
Monthly Family Income	Between Groups	1.688	3	.563	1.277	.282	Not Significant
	Within Groups	148.114	336	.441			
	Total	149.802	339				
Number of Siblings	Between Groups	2.213	4	.553	1.256	.287	Not Significant
	Within Groups	147.589	335	.441			
	Total	149.802	339				
Baseline Status	Between Groups	.742	1	.742	1.682	.196	Not Significant
	Within Groups	149.061	338	.441			
	Total	149.802	339				
End-line Status	Between Groups	2.623	3	.874	1.996	.114	Not Significant
	Within Groups	147.179	336	.438			
	Total	149.802	339				

The table shows that among the profile variables, only age (F=3.446) and sex (F=10.648) had significant values (Sig.=.003, .001, respectively) that is less than the set alpha level (α=.05). Thus, the null hypothesis regarding these two profile variables was rejected; hence, there is significant difference on economic problems encountered when SBFP beneficiaries are grouped according to their age and sex. This indicates that male and female beneficiaries with belonging to different age groups encounters different struggles pertaining to their financial and monetary needs. This can be explained by the truth that male and female individuals have different personal needs, which requires financial support and that older individuals spend differently from those of younger age.

Relationship between Problems Encountered and Academic Performance

The beneficiaries received series of feeding activities for the whole period covering from first grading to the third grading period. Within this period, they encountered social, behavioral and economic problems that may have affected their academic performances. The researcher hypothesized (null) that there is no significant relationship between the problems encountered and the academic performance of the beneficiaries before and after the implementation of the school-based feeding programs. Table 10 shows the result of the correlation test.

Table 10. Correlation between Problems Encountered and Academic Performances of SBFP Beneficiaries

Problems Encountered	Coefficients	Academic Performance Before and After SBFP Implementation	
		Before	After
Social Problems	Pearson Correlation	-.201**	-.190**
	Sig. (2-tailed)	.000	.000
	N	340	340
Behavioral Problems	Pearson Correlation	-.229**	-.242**
	Sig. (2-tailed)	.000	.000
	N	340	340
Economic Problems	Pearson Correlation	-.174**	-.170**
	Sig. (2-tailed)	.001	.002
	N	340	340

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

It can be seen on the correlation result that the academic performance of before the implementation of SBFP, social problems (r = -.201), behavioral problems (r = -.229) and economic problems (r = -.174) have Sig. (2-tailed) values less than α = .01. Moreover, after the implementation of SBFP, social problems (r = -.190), behavioral problems (r = -.242) and economic problems (r = -.170) have Sig. (2-tailed) values less than α = .01. All this negative coefficient denotes low negative correlation between the problems encountered and academic performance. These prompted the researcher to reject the null hypothesis, hence there is significant relationship between problems encountered and academic performance of SBFP beneficiaries.

It can be inferred that minimizing or eliminating social, behavioral and economic problems encountered by the beneficiaries could result to a higher or better academic performance. This implies that better social interaction, behavioral manifestations and providing sufficient financial support will motivate the learners to perform well and better in their academics.

It also implies that these problems encountered by the beneficiaries brought about and caused by their nutritional deficiencies can be minimized or even eliminated if they gain confidence after a successful implementation of the school feeding program. This supports the findings of Molinas and Marc dela Monthe (2011) who revealed that school feeding program enhances nutrition and health of primary school children leads to improved learning and decreased morbidity, paving the way for healthier lives. School feeding not only alleviates hunger in school, but also enhances nutrition, particularly when the food is fortified with micronutrients. This raises the potential to improve a child's health, school performance and educational attainment.

Conclusion

From the findings of the study, the researcher draws the following conclusions: ***First,*** a typical beneficiary of the school-based feeding program is an undernourished female in the late childhood stage, with at least three siblings and a child of a regularly employed parent or guardian with a monthly income below the minimum family financial requirement. ***Second,*** the SBFP beneficiaries suffers social disintegration, exhibits unpleasant behavior and do not have enough money to buy healthy food in school. ***Third,*** the beneficiaries of the school feeding program attained the same level of academic performance with a slight change in their final numerical grades on the average before and after the implementation of the SBFP. ***Fourth,*** a significant change in the academic performance of the beneficiaries before and after they undergo the program implied that the implementation of the SBFP is effective

and improves the academic performances of the program recipients. ***Fifth,*** beneficiaries of different age and sex suffer and encounter different social, behavioral and economic problems. ***Sixth,*** minimizing and eliminating the causes and sources of the problems of the feeding beneficiaries will consequently improve their academic performances. Lastly, the success and effectiveness of the SBFP implementation could be indicated and measured by an increase in the school performance of the beneficiaries.

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