

Nutrition and Academic Achievement of Filipino Learners: A Literature Review

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ABSTRACT

Nutrition has always been significant in the lives of all. It refers to the needed amount of vitamins and minerals the body receives to allow proper functioning. Undernourished and malnutrition are no longer new issues in the Filipino learners. It has been reported to have a total of 1,836,793 undernourished pupils from kindergarten to Grade 6 pupils as reported by DepEd on FY 2019. On the latest news, the Programme for International Student Assessment (PISA) results showed that the Philippines ranked dead last in reading among 79 participating countries or economies, and ranked second to the last in both mathematics and science. The Philippines sees a strong relationship between the socio-economic status of students and their school performance, according to the full report. With this, the researchers aimed to see if in the past researches, there was a reported significant association between nutrition and academic achievement of the students. Of the twenty reviewed studies, ten research articles were utilized. From these, six out of ten researches confirmed the association. Furthermore, the researchers concluded that students who were of proper nutrition were more likely to perform better in school as reported in their academic performance.

KEYWORDS: Nutrition, Malnutrition, Academic Achievement, Academic Performance, Filipino learners, Undernourished, Nutritional Status, Body Mass Index

INTRODUCTION

Nutrition is an essential part of human life, health and development. It refers to the quality and amount of food intake the body receives. It is the total processes involve in how an organism obtains nutrients and use them to enable to work properly. It is one of the basic needs of every individual on earth and not possessing proper nutrition can be terrible. Intake of insufficient amount of food nutrients may lead to different kinds of illnesses and may turn the bodies weak and disable. With the lead of technology advancement, fast and processed foods are already prevalent in the world. It is very much a concern to the younger generation especially to learners on how much daily consumption of food nutrition do they have. Poor nutritional status is believed to be one of the causes of low productivity in school which affects the academic achievements of the students.

According to World Health Organization (2018), data showed that 52 million children under 5 years of age are wasted, 17 million are severely wasted and 155 million are stunted, while 41 million are overweight or obese. In the

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nutritional status baseline report of DepEd for fiscal year 2019, it has presented a total 1,836,793 undernourished pupils from kindergarten to Grade 6 pupils with Region VII spotted on the 6th rank of most number among all regions. (DO 18 s. 2019)

Ganal and Guiab (2014) stated that the International Mathematics Olympiad showed that the Philippines ranked 79th out of 82 countries in 2003 and 80th out of 85 countries in 2004. Moreover, DepEd data showed that the fourth year students' NAT results from the three recorded years was consistently below 75 %.(Philippines Basic Education, 2013). On the latest news, the Programme for International Student Assessment (PISA) results showed that the Philippines ranked dead last in reading among 79 participating countries or economies, and ranked second to the last in both mathematics and science.

Several studies reviewed the association of nutrition and achievement or performance of the students. Anderson and Good (2017) noted that the findings of their study indicate a

link between healthy body weight and better academic success.

In addition, the study of Asigbee, Whitney and Peterson (2018) suggested a supporting relationship between students' health and academic achievement. There was a strong connection between healthy nutrition and adequate physical activity, and the average performance within the population.

The result of Nyaradi, A. (2015) study showed a better quality diet score at one year of age was associated with significantly higher scores in mathematics, reading, writing and spelling at both grades five and seven. Moreover, associations were also observed between a higher diet score at two years and academic scores for mathematics, writing and spelling at grade seven. Thus, quality of early diet may be a predictor for later academic achievement.

In the Philippines as reported by Food and Nutrition Research Institute of the Department of Science and Technology (2018), malnutrition is high in pre-schoolers particularly among three years old at 33.8%. Overweight is noted as becoming a problem as the children grow older. There was a prevalence of 2.9% among 2-year-olds, 5% was recorded among 3-year-olds, 4.8% among 4-year-olds and 9.2% among 5-year-olds. Although the prevalence of stunting and underweight decreased from figures in 2015, this is still regarded as public health problems with high severity.

This study focuses on the association of the nutrition and academic achievement in Philippine context. This further aims to create an empirical evidence on the impact of nutrition to academic achievement of the Filipino learners.

OBJECTIVES

This study intended to:

1. investigate the impact of nutrition to the academic achievement of Filipino learners;
2. Assess the association of nutrition and academic achievement in Philippine context.

As this study was related with nutrition and its impact on academic achievement, reviews of 20 articles were drawn for the purpose of extracting findings and conclusion of the study. At the end of the study 10 research articles were included. The inclusion and exclusion criteria were:

A. Inclusion Criteria

Research articles published from 2009 to 2019 were included in the study.

The articles having data base of either Google scholar, Scopus, Copernicus International and International Scientific Indexing were included in the study.

B. Exclusion Criteria

The articles having no indexation with either Google scholar, Scopus, Copernicus International and International Scientific Indexing were excluded from the study.

The articles published before 2009 were excluded from the study.

DESIGN AND METHOD

The study uses a qualitative approach where metasynthesis is employed to gather and analyse data across different studies. Different researches were gathered to generate a conclusion on the association of nutrition and academic achievement.

REVIEW OF RELATED LITERATURE

According to the study of Dominguez (2018), High malnutrition results in a low school survival rate. This shows that malnutrition is an important factor that affects the ability of a child to stay in school, thereby strengthening the importance of school-based programs that attempt to fight severe child waste. Malnutrition, as predicted, has a negative relationship with cognitive development and educational achievement. This reinforces the role of food in the academic life of a child in such a way that it can either promote or impede growth and development, depending on the quality of the child.

As cited by Acheron and Beredo (2019), Wanjohi (2010) revealed in his study that lack of sufficient food and a balanced diet were the main cause of malnutrition among children in the area. Poverty among children was also found to be a root cause of malnutrition. Moreover, Acheron, et. al. (2019), the study of Santanu Ghosh and Haradhan Saha (2010) found that malnutrition had a negative impact on children's academic performance and growth rates. Knowing more about what nutritional deficiencies can lead to, parents should help their children to be successful in the classroom. It indicates that food in the students' academic performance is of paramount importance.

According to the study of Hunt (2015), fruit consumption is directly proportional to alertness. In the same manner, a decrease in fruit consumption will result to a negative increase in the "sometimes alertness" of the respondents. The data appear to suggest on a surface level that increased fruit consumption has a positive effect of stimulating the mind. How this is accomplished beyond this study's scope; however, what is known is that fruits help the brain process and more efficiently recall information (Hyson, 2001).

Comparing the diet of students who consume one to two meat servings a week to those who eat it five or more times a week, the data suggest that the majority of the former group has an average "A," while the latter majority has an average "C." But one thing has been pointed out: people whose diets contain high amounts of fruits and minimal animal products have outperformed their peers in all areas (i.e., class alertness, frequency of sickness, feeling after meals, and academic performance). (Hunt, 2015)

As cited by the study of Alcuizar, R. (2016), Akanle (2007) mentioned that to elementary-age children, academic achievement is important as a resource to productive adult life. Academic excellence for schools is also a key mandate. On the other hand, proper nutrition for the children is a construct in which the individual as an indivisible being achieves a positive state of mind, body, and spirit integration with the context of the environment. In the development of proper nutrition and wellbeing, academic achievement for children arises as there is shared control for a child between academic factors and non-academic factors. According to Murray, Low, Hollis, Cross and Davis (2013) as cited by

Alcuizar, R. (2016) said that adequate food has been described as key elements influencing the academic performance of children.

In the study conducted by Magulod, G. and Capili, J (2019) showed that students' academic achievement is accounted on healthy eating habits and nutritional status. Moreover, academic achievement of the college students is significantly predicted by eating habits and BMI. To predict students' academic performance, the Body Mass Index (BMI) is found. This indicates that they demonstrate good academic performance when students have a normal body status. The predicted learning achievement of students would increase with good nutritional status. As cited by Magulod et.al. (2019), the finding further confirms Alatupa, Pulkki-Råback, Hintsanen, Ravaja, Raitakari, Telama, Viikari and Keltikangas-Järvinen (2010); and London & Castrechini (2011) that to predict students' academic performance, the Body Mass Index (BMI) is used. The healthy eating habits of the students, therefore, predict their academic performance. This indicates that students can perform academically if they have good eating consumption.

PRESENTATION AND ANALYSIS OF THE PREVIOUS RESEARCH STUDIES

In the study between the correlation of the nutritional status and academic performance of the child labourers, good nutritional status and school attendance may prove to have positive effects on the children's academic performance. The data showed that domestic child labour hours, nutritional status and school attendance were positively correlated with academic performance. Furthermore, street vending labour hours was negatively correlated with academic performance. (Cardoso et.al., 2015)

In the study of Dominguez (2018) on socioeconomic factors, child malnutrition, maternal health, and academic performance; it was concluded that there is a negative association between high malnutrition and school performance. Moreover, hungry students cannot become fully participative in class. Thus, this condition directly affects their ability to process knowledge, promote attentiveness and may degrade their social skills with teaches and other students.

Aceron (2019) also confirmed that his study showed that eating habits and illiteracy inversely affected academic performance of the students. The researcher concluded that if the nutritional status of the students be improved, then the academic performance will also be enhanced. Hunt (2015) in his study showed that individuals whose diet contains high amounts of fruits and minimal animal products outperformed their peers in all areas. Thus, this study concluded that there is indeed a link between the digestive system and the brain functions of an individual as claimed by Scharffenberg and Walton's (1981).

Alcuizar (2016) said that in his study towards nutrition, living condition, and academic performance; nutrition turned out to be the most predominant factors of the independent variables studied, which hinders the pupils' academic performance, followed by parents' living conditions. Further, the result of the study showed that majority of the respondents were underweight which are generally considered major factor that affect the health

status of the pupils. This has been found to be one of the reasons of their poor academic performance and result from NAT.

Magulod (2019) concluded that sex, weekly allowance, and parents' education spelled differences on the respondents' BMI. Academic achievement and healthy eating habits are found to be correlated. Lastly, healthy eating habits and BMI significantly predicts the academic achievement of the college students. Hence, development of educational interventions focusing on students' awareness on healthy food intake will encourage them to have a better practice of healthy eating habits and a better academic performance.

CONCLUSION

From the several studies conducted, more than half of the reviewed studies have concluded that nutrition affects the academic achievement of a Filipino child. Furthermore, it has been noted that the two variables are correlated with each other. Students who are not in proper nutrition may be disturbed from the class and are less focused. Thus, it was recommended to monitor the children's eating habits that may affect their nutrition as teenagers preferred foods based on ingredients, taste and less on nutritional value. Moreover, their eating behavior affects their nutritional status which in the long run still affects their academic achievement.

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References

- [1] Aceron, A. (2019, November). Nutritional Status and Its Impact on Academic Performance of Selected Grade 8 Students. In *Journal of Physics: Conference Series* (Vol. 1254, No. 1, p. 012013). IOP Publishing. Retrieved from <https://tinyurl.com/s8pm9ag> indexed by Scopus
- [2] Alcuizar, R. M. (2016). Determinants of low academic performance for pupils in upland barangays, Iligan City, Philippines. *International Journal of Physical Education, Sports and Health*. Retrieved from <https://tinyurl.com/ucndabj> indexed by Copernicus international
- [3] Anderson, A. S., & Good, D. J. (2017). Increased body weight affects academic performance in university students. *Preventive medicine reports*, 5, 220-223. Retrieved from <https://tinyurl.com/wage86w> indexed by Google Scholar
- [4] Asigbee, F. M., Whitney, S. D., & Peterson, C. E. (2018). The link between nutrition and physical activity in increasing academic achievement. *Journal of School Health*, 88(6), 407-415. Retrieved from

- <https://tinyurl.com/utmowcy> indexed by Google Scholar
- [5] Cardoso, M. D., & Casiño, J. M. (2015). Child Labor, Nutritional Status, and Academic Performance of Filipino Children. *US-China Education Review*, 5(9), 604-612. Retrieved from <https://tinyurl.com/w83ocu9> indexed by International Scientific indexing
- [6] Conoza, A. P. (2019, July 24). National Nutrition Month 2019: State of the nation's nutrition. Retrieved December 2, 2019, from Business World: <https://tinyurl.com/v4f5lfr>
- [7] Dominguez, V. A. H., & Halili, B. L. B. (2018). Food for Thought: The Socioeconomic Impact of Child Malnutrition and Maternal Health on the Academic Performance of Filipino School Children. *European Journal of Sustainable Development*, 7(4), 361-371. Retrieved from <https://tinyurl.com/qvyxkfp> indexed by Google scholar
- [8] Ganal, N. N., & Guiab, M. R. (2014). Problems and difficulties encountered by students towards mastering learning competencies in mathematics. *Researchers World*, 5(4), 25. Retrieved from <https://tinyurl.com/snout2e> indexed by Google scholar
- [9] Hunt, J. G. (2015, October). Diet and Academic Performance. In *International Forum* (Vol. 18, No. 2). Retrieved from <https://tinyurl.com/qvyxkfp> indexed by International Scientific Indexing
- [10] Ligaray, B. O. P. Nutritional Status and Reading Ability of IP Students in Patel Elementary School, Kapalong East District Davao del Norte. *International Journal of Advancements in Research and Technology*. Retrieved from <https://tinyurl.com/rhudp9t> indexed by Copernicus International
- [11] Magulod Jr, G. C. (2019). Anthropometric Status and Eating Behavior as Predictors of University Students' Academic Achievement. *Asia Pacific Journal of Multidisciplinary Research*, 7(2). Retrieved from <https://tinyurl.com/vf3haqg> indexed by International Scientific indexing
- [12] Moralista, R. (2016). Nutritional Status Of Elementary Pupils At The District Of Lambunao East, Philippines. *International Journal of Social Sciences & Humanities Research*. Retrieved from <https://tinyurl.com/wu99mgw> indexed by Google Scholar
- [13] Naelga, S. C., & Doncillo, H. L. (2016). Nutritional Status: Its Relationship To The Academic Performance In English And Mathematics Of Grade 2 Pupils In Bulua Central School. *Turkish online journal of design art and communication*, 6, 2537-2545. Retrieved from <https://tinyurl.com/u3y3bdp> indexed by Google scholar
- [14] Nyaradi, A., Oddy, W. H., Hickling, S., Li, J., & Foster, J. K. (2015). The relationship between nutrition in infancy and cognitive performance during adolescence. *Frontiers in nutrition*, 2, 2. Retrieved from <https://tinyurl.com/vafb6tg> indexed by Google scholar
- [15] The National Achievement Test in the Philippines. (2013, July 20). Retrieved December 5, 2019, from Philippine Basic Education: <https://tinyurl.com/yx4llw52>
- [16] Y. Teves, K. L., & T. Narciso, J. F. (2015). The Consequences Of Students' Eating Behaviors And Food Perception On Their Nutritional Status And Academic Achievement. *People: International Journal of Social Sciences*, 3(1). Retrieved from <https://tinyurl.com/uh6rjpp> indexed by Google Scholar