

## Links between Food Intake, Physical Activity and Obesity in Increasing Academic Performance among Palestinian School Children

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**Background:** The effect of nutrition and health on academic performance has been approved by many research studies. Good health, nutrition and physical activity improves cognitive functions among students and lead to a better academic performance. There is a strong association between nutrition, physical activity and physical health in increasing the academic performance.

**Objective:** The aim of this study is to examine the effect of nutrition, physical activity, and obesity on the academic performance of schoolchildren in Palestine.

**Method:** A national school survey has been conducted in 2013 to collect food consumption, demographic, socioeconomic, lifestyle and risk factors among Palestinian schoolchildren aged 11-15 years. Respondents from West bank schools were selected from the Ministry of Education school system. A representative random sample of 3470 students was collected. A quantitative tool that includes demographic variables, physical activity, food consumption 24H recall and the anthropometric measurements was used to collect data from the schools' sample. In addition, the students' grades were obtained from the schools' system under the supervision of the Ministry of Education.

**Findings:** Results showed a strong significant association between academic performance and nutrition, physical activity levels and obesity. Students who consumed higher healthy food (fruits, vegetables and milk) reported higher grades than the unhealthy consumers in arts and sciences with a maximum deviation of 5.7%, 5.2%, respectively. Students with nutrient intake less than RDA standard and non physically active scored lower grades in math and science with percentage deviation of 2.1%, 1.9%, respectively. Overall, students with good nutrition intake, physically active and are non-obese reported better school achievement in science and technology.

**Conclusion:** Healthy food consumers and physically active students scored better academic grades. Thus, results from our study approved the relationship between students' health status (food consumption and physical activity) and the academic achievement. Findings emphasize the importance of linking the food intake, school physical activities and health policies for improving cognitive functions and academic performance of Palestinian schoolchildren.

### Biography:

Diala Abu Al-Halawa is a medical student in the faculty of Medicine at Al-Quds University. She joined the biomedical and technology research group two years ago. She is working as research assistant on the artificial intelligent nutrition and health related problems prevention and management project, and on cancer detection and treatment planning research project. Her interests are focused on the medical and technology research to solve medical problems. In particular she is working on the role of artificial intelligent technology on prevention and management of medical diseases such as nutrition health related problems and cancer.