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NEWSLETTER

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## **Nutrition Improvement Program for Compulsory Education Students in Rural Area: Effects of Meal Plan on Pupils' Physical Health and Mental Health**

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**T**HIS article is based on the research data of 49 schools from three north-west provinces in China that have implemented the “Nutrition Improvement Program for Compulsory Education Students in Rural Area”(2015), using Ordinary Least Squares (OLS) regression and Propensity Score Matching (PSM) methods to study the influence of enterprise and school meal plan on children’s physical and mental condition through the development state like height and weight, including the status like anemia, since the implementation of the Plan in 2011. The research indicators and results are as follows:

- Indicator description: The Body Mass Index Z score (BMI z-scores) and Height for Age Z score (HAZ-scores) are used to evaluate the physical development of children; The anemia rate and HB(hemoglobin) value are used to reflect the anemia status of children; and the Mental Health Test(MHT) is used to measure the mental health of children.
- Analysis of regression results: This paper adopts the OLS regression estimation method, and the results show that after adding a series of personal and family variables, whether school supply meals or not have no significant impact on BMI index and HAZ index, but it has a significant impact on the HB value and anemia rate, and it also has a significant correlation with the psychological score. What’s more, using the PSM method to control the endogeneity, which further proves whether the school supply meal or not has a significant effect on the mental health of students, and also including the specific learning anxiety, self-blame tendency, and physical symptoms.
- Research conclusions: In terms of physical development, there is no significant difference between school meals and corporate

meals; in terms of anemia and mental health, students who receive school meals is worse than those receiving corporate meals.

- Policy recommendations: In order to further improve the implementation of the plan, it is necessary to consider the reasonable design of the proportions of different types of meals and the nutritional combination of foods in different meal plan; in terms of nutrition, school meals need to pay attention to providing sufficient meat and other iron-rich elements food, corporate meals should increase the supply of vegetables or fruits.

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