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What's for lunch: A Correlation Between Food Deserts and Food Insecurity in School-Aged Children



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Abstract

There are marked inequalities in the accessibility of nutritious food in some areas. While food insecurity affects a variety of ages, the effects on school aged students are more detrimental because of the lack of control they have over the situation. A variety of programs are currently available to help children who are facing food insecurity currently exist. Unfortunately, children are at the mercy of the adults in their lives as to which programs are made available to them. Students may assess their food insecurity differently based on their access to nutritious food resources in school. This research will collect data on the students' relative food security, current food service programs that the students participate in, and the students' reflections on ease of accessing healthy food. Data will be collected with two surveys -- one for the adult head of household and one for the student -- created using the United States Department of Agriculture Economic Research Service survey tools (2017). Additional data will be collected from the students by means of a week long food diary with daily reflection questions. A geographical representation of food deserts will be created by mapping full food resources within each zip code represented in the target population. Findings from the research might include increased nutritious food consumption by students participating in school food service programs and lower perception of food insecurity by students who receive their meals via school food service programs. The proposed research will highlight how current food service programs are helping children overcome food insecurity and weaker areas that have the potential to aid children and the general population.

Background

Eliminating food insecurity and poor nutrition is one large step to increasing the health of our nation's children which has long term effects on their economic abilities and quality of life.

- Currently 14% of the United States population suffers from some form of food insecurity (Roselle and Connery, 2016, p. 175).
- Students who are undernourished are more likely to be irritable, have trouble concentrating during school, and get sick more often; they also have higher levels of school truancy and social and behavioral issues (Roselle and Connery, 2016).
- Students are less likely to participate in school lunch programs the higher the number of fast food restaurants in their school zip code (Capsi, et. al., 2017, p. 723).
- Other factors that lead to food insecurity are the knowledge and skills to eat healthy meals (Husz, 2018).
- By using the already available in-school programs, students will have more opportunities to choose nutrient dense foods.
- Further research is necessary to find the connection between the availability of food resources and food insecurity in school children. A more detailed definition of what it means to be food insecure (or food impoverished) should be developed to include all aspects of the issue. Accessibility of nutrient-rich food in the most at-risk areas should be considered. Expansion of current programs and increasing access to already available food resources may prove to be the positive steps necessary to address this issue.

Rationale/Purpose

The direct correlation between the external food environment and the food security of school aged children is yet unknown.

This research study proposes to determine if there are aspects of food insecurity for school-aged children that can be addressed with increased education regarding proper nutrition and increased use of current school-based programs.

Additional Potential Research Questions:

- How can the availability and accessibility of nutritious food reliably predict whether a child will be food secure?
- How does food insecurity affect academic achievement?
- Does transportation to adequate food sources play a significant role in a student's food availability?
- Do students who participate in school-based food programs no longer identify as food insecure?

Method

Participants

- Sample collected from the Virginia Beach City Public Schools district
- Stratified sample – 100 each from elementary, middle and high school
- To increase the number of possible participants who participate in federally funded food service programs, students will be selected from Title 1 schools in the district.
- Control group also at 100 individuals from each of the same cohorts as the target population.

Materials and Procedure

Independent variable – participation in state- or federally-funded school meal programs

Dependent variables – perceived food security, daily food intake

Survey Instrument Procedure:

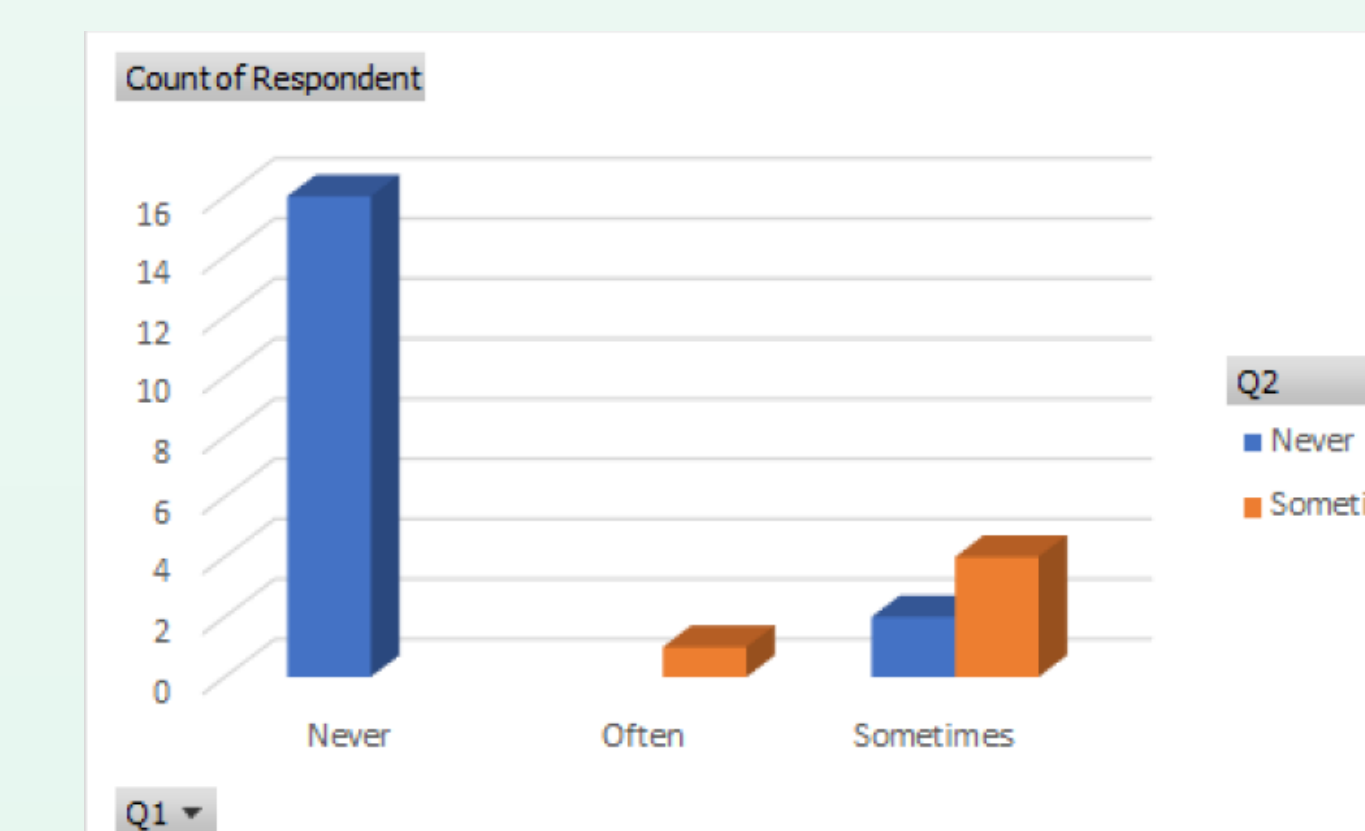
- Request consent from school principals and parents/legal guardians of survey population
- Surveys sent home with students at the beginning of the school year
- Each parent/guardian and student pair are given one week to complete survey
- Students are given a food diary and reflection questions to complete during the week
- Surveys are returned then paired based on identifying barcode
- Qualitative questions are scored using USDA ERS scale (2017)
- Quantitative and open ended questions are grouped and qualified based on synonymous words and themes.

The following questions are about the food situation in your home **during the last month**. Please circle the answer that best describes you. Do not put your name on the paper. Your answers will remain a secret.

1. Did you **worry** that food at home would run out before your family got money to buy more?
 A LOT
 SOMETIMES
 NEVER
2. Did the food that your family bought **run out**, and you didn't have money to get more?
 A LOT
 SOMETIMES
 NEVER
3. Did your meals only include a few kinds of **cheap foods** because your family was running out of money to buy food?
 A LOT
 SOMETIMES
 NEVER
4. How often were you not able to eat a **balanced meal** because your family didn't have enough money?
 A LOT
 SOMETIMES
 NEVER
5. Did you have to **eat less** because your family didn't have enough money to buy food?
 A LOT
 SOMETIMES
 NEVER
6. Has the size of your meals **been cut** because your family didn't have enough money for food?
 A LOT
 SOMETIMES
 NEVER
7. Did you have to **skip a meal** because your family didn't have enough money for food?
 A LOT
 SOMETIMES
 NEVER

Anticipated Results

- Families that report relying on low cost food report lacking adequate daily nutrition at a higher rate than families that do not rely on low cost food.
- Students self-report as food insecure at a higher rate than their parent or head of household.
- Students are less aware of what constitutes a full, nutritious meal than their parent or legal guardian.
- Students who participate in school food service programs report their food security at an equal rate as students who are not eligible for food service programs.



The above graph shows the cross tabulation results from a pilot study showing the relationship between relying on low cost food and obtaining adequate nutrition. In the pilot study, the results are similar to what is expected in the proposed research. Individuals who sometimes or often rely on low cost food were more likely to have less nutritious food for their meals.

Discussion

- Discovering how students understand their food security in relation to available food sources at school may help to lessen the effect of food insecurity they may feel outside of school.
- If students can rely on food sources at school, their focus may be more on academic success.
- Evaluating the food diary of each student will give teachers and administrators data to implement or increase nutrition education.
- Further research may explore the acute and qualitative affects on student grades and success in school.
- Further research may also explore why families who are eligible for state or federally funded food service programs do not use them.

References

- Caspi, C., Wang, Q., Shanafelt, A., Larson, N., Wei, S., Hearst, M., & Nanney, M. (2017). School breakfast program participation and rural adolescents' purchasing behaviors in food stores and restaurants. *Journal of School Health, 87*(10), 723-731. doi:10.1111/josh.12546.
- Husz, I. (2018). 'You would eat it if you were hungry'. local perceptions and interpretations of child food poverty. *Children & Society, 32*(3), 233- 243. doi:10.1111/chso.12274.
- Roselle, R., & Connery, C. (2016). Food justice: Access, equity, and sustainability for healthy students and communities. *Kappa Delta Pi Record, 52*(4), 174-177.
- United States Department of Agriculture Economic Research Service - Survey Tools. (2017). Retrieved from <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/survey-tools.aspx>.