

Who's Hangry?: Food Insecurity and Psychosocial Adjustment in D.C. Teens

Robert Price, Andrea Murillo, David Whittington, Jelani Garrett, and Jordan Ray
Mentor: Jessabelle Bowers-Perez

Abstract

About 19,430 children in Washington D.C. experience food insecurity every day (Oliver, 2022). This is equivalent to 1 in 7 children in the area. According to WUSA, a news channel, food insecurity has been proven to lead to grave behavioral and emotional issues that can impair mental health and make it difficult for students to adjust to social situations (WUSA, 2017). We are excited to announce a new program that will help tackle food insecurity in public high schools in wards 7 & 8. The program's name is DC Creating Overall Optimism in Kids (DC COOKS). The goal is to provide students with the skills and knowledge they need to cook easy and nutritious meals, even if they do not have access to a grocery store. When teenagers face economic stressors like food insecurity, it can have a significant impact on their emotional and behavioral functioning. While the direct effects of food insecurity on adolescent growth are clear, it is also likely that these stressors work indirectly to affect psychosocial adjustment. It is important to address these issues and provide support to help adolescents navigate this challenge because the consequences of ignoring these struggles can lead to less energy for complex social interactions, inability to effectively adapt to environmental stress, feeling physically unwell, and possibly developing mental health disorders or chronic illness (Thomsen, 2021). By offering these cooking classes, students will be empowered and given the tools they need to make healthy choices which will improve their overall psychosocial well-being. Moreover, the program will reduce food insecurity in the home causing an improvement in teen psychosocial adjustment. Every student deserves access to healthy food, and this program will make it a reality.

Epidemiology

Wards 7 and 8 commonly deal with food insecurity because of the lack of grocery stores in the area, a myriad of convenience stores and fast-food restaurants offering unhealthy food, and the unusually low income of families in that area (Ebuehi, 2021). In the past, the Supplemental Nutrition Assistance Program (SNAP), also known as food stamps, attempted to end food insecurity, but their initiative only reached 28.9% of the households in DC with children (Feeding America, 2022). Food insecurity greatly connects with mental health, according to *BioMed Central*, with food insecurity being associated with a 257% higher risk of anxiety and a 253% higher risk of depression in teens (Thomsen, 2021). Maynard, a researcher, investigated the association between food insecurity and anxiety among adolescents between the ages of 12-17. He discovered that adolescents who experienced food insecurity had higher chances of developing mental health problems, including depression and anxiety (Maynard, 2009). Dr. Andrea Jones investigated why food insecurity increases anxiety and depression and discovered it induces feelings of alienation (Jones, 2016).

Prevalence of food insecurity in DMV in 2021



Question: USDA six-item screener for food insecurity

Source: Capital Area Food Bank Survey conducted February 4-March 2, 2022 with 3,750 adults age 18 and older in the D.C. Metro Area

url: <https://www.local2022/06/30/d-c-area-resident-screener-food-insecurity/>

Program Implementation

The DC COOKS (Creating Overall Optimism in Kids) program is a cooking class that will be offered to public schools in Wards 7 and 8. This class will entail students learning how to cook various recipes that hold nutritious value, are affordable, and are easy to cook. After each class, students will be given the ingredients to make the same recipe at home to implement what they have learned in their day-to-day lives and address potential food insecurity in the home. This class will be a course requirement for high school students to graduate. One student must take this course for 1 school year to fulfill the course requirement. Students will take the course once a week and the course day will be determined by each student's class schedule. The course will follow a set curriculum that the school board and local government will create. While each specific curriculum will be at the discretion of the school board and district, each meal in the curriculum must have a fruit or vegetable, one source of protein, one source of grains, and each meal must be approved by a nutritionist and the school board to ensure that it is a good meal for the program. Schools must also have an alternative if a student is allergic to an ingredient in the recipe. Correct implementation will be overseen by the school board and will be a requirement for accreditation. The cost of 1 student enrolled in the program will be \$1,350, and the total cost to launch the pilot program will be \$951,780 (assuming that the average school population will be 500 students). The money to fund this program will come from fundraising and government funding. Over time, the program costs will decrease because charitable partnerships with big-chain grocery stores, farmers markets, and food pantries will be established to provide some of the food needed for the course. To measure the success of the program, anonymous surveys will be sent to students and faculty every semester to measure overall student behavior, mental health, enthusiasm, academic growth, and food insecurity in the home. School behavioral and academic records will also be reviewed to measure growth as a reflection of success of the program.

Theoretical Grounding

Food insecurity affects teens in various ways, one being psychosocial adjustment. Food is a crucial part of brain development as it contains the proper nutrients for your brain to grow and retain all the knowledge that you need as a teen. According to Harvard Health "For many families, it's not that they choose not to eat these foods — it's that they can't afford them. Meats, fish, and fresh vegetables can be expensive" (McCarthy, 2018). This shows the direct problem with how food insecurity is being caused and why it happens on such a large scale. According to WTOPE news, 36% of people living in DC are food insecure and food insecurity was found to be higher among black people than white residents (Delaney 2022). There are a few reasons why DC teens run into these problems, such as affordability, access, transportation, etc. Affordability is defined as how much the food costs to get healthy ingredients to help support brain development. Location is important because in some wards in DC, there are only 1 or 2 grocery stores, and those stores are mostly not close to people. Transportation means people have to get on buses and travel far just to get to a store that has little to no good options and that also goes into the cost. DC COOKS is put into place to educate and for teens in underserved communities a chance to get good quality and healthy foods for zero cost while teaching them how to prepare the food for the week. In DC, there are a lot of different programs to help people get food, including Bread for the City, SNAP, Food Banks, and EBT. Bread for the City was put into place to give food bags to people based on their household size, if they receive TANF (Temporary Assistance for Needy Families) and insurance information. One reason programs like this are not working is because of the process of getting the food. Moreover, being asked for the personal information mentioned above can deter people and make them feel that they are being labeled by their need. Many do not want to be labeled with the stigma that comes from getting food handouts. We believe mandating DC COOKS as an in-school course will consequently reduce the stigma that accompanies programs that are based on a donation and volunteer system such as Bread for the City. In conclusion, food insecurity is a rising problem that has inadequate solutions in place. People should not be put in a position to have to work too hard for affordable nutritious foods. DC COOKS will work towards improving the mental health of teens in wards 7 and 8 by educating students on how to prepare healthy foods while also providing the resources to prepare those meals at home.

Program Evaluation

The DC COOKS program has a goal to effectively decrease food insecurities and to improve psychosocial adjustment in adolescents living in wards 7 & 8, reaching them at their high schools. The program will help provide knowledge to teenagers in high school on how to cook meals that are not only nutritious but also affordable as well as provide free groceries to students enrolled in the course. There are two main methods that will be used to evaluate the overall effectiveness of the program: looking at school records and receiving anonymous student and faculty surveys. Our objective program evaluation will involve reviewing school records for suspensions and expulsions, analyzing shifts in the total number of violent incidents among students, the amount of behavioral interventions issued for students enrolled in the course, number of students enrolled in the course, number of days missed by students, and pre- and post-course psychological evaluation by a school counselor. We will also look at student grades to evaluate changes in GPA and positive class behavior for students who have taken this course. This will be subjectively evaluated through an anonymous student survey before the course begins and when the course ends. In the pre-course survey, students will be asked about how they are doing academically, their overall well-being, what they look to get from this course, their food situation at home, and how secure they feel about getting food. For the post-course survey, students will be asked similar questions, with some changes, in order to assess if the students feel that the program helped them. A faculty pre-course survey will also be taken where they will be asked about how they feel about students' behavior in and out of class, if they notice any food insecurities in students, how they feel food insecurity is affecting students, and what effect they think the program will have.

Conclusion

The DC COOKS program is a much needed initiative that will provide teenagers in the DC Public School system in wards 7 & 8 with the tools and resources needed to make healthy choices and improve their well-being. Many teens across wards 7 & 8 experience food insecurity, and this program will provide the necessary tools for students to make healthy choices causing improvement in their psychosocial adjustment. The program will be affordable, costing only \$1,350 per student enrolled and launching at a total cost of \$1,012,500, and the money invested will yield invaluable results. Overall, this initiative is a step in the right direction towards addressing food insecurity and its effects on teen psychosocial adjustment, as well as improving the general quality of living of students in DC.

Acknowledgements

We would like to thank our DC HAPP mentors, especially Jessabelle, and our coordinator Jalina who has guided us through this experience. Thank you to our families, friends, and teachers who have helped us receive this opportunity and allowed us to have this experience. We are grateful for all the professors and speakers who came and provided us with insight and information on various health-related topics that we can use both in our journey in the medical field and in life as well. Lastly, we are especially grateful to Dean Hayward and Dean Henry who allowed us into this program and exposed us to this unique experience.

References

33% of D.C.-area residents experience food insecurity. (2022, June 18). WTOPE News. <https://www.wtop.com/2022/06/18/d-c-area-residents-experience-food-insecurity/>

District Of Columbia | Feeding America. (n.d.). www.feedingamerica.org

County Management Jobs. (n.d.). <https://jobs.dcmgmt.com/employment/county-management>

Headlines. O. (2022, February 16). *How DC Funds Its Public Schools*. DC Fiscal Policy Institute. <https://www.dcfpi.org/2022/02/16/how-dc-funds-its-public-schools/>

McCarthy, C. (2018, January 23). *The crucial teen foods all children need*. Harvard Health Blog. Harvard Health Blog. <https://www.health.harvard.edu/blog/the-crucial-teen-foods-all-children-need-20180123119111>

Myers, C. A. (2020). *Food Insecurity and Psychological Distress: A Review of the Recent Literature*. *Current Nutrition Reports*, 9(2). <https://doi.org/10.1007/s13692-020-00100-1>

One In Three D.C.-area Residents Has Food Insecurity In 2021, Report Finds. (n.d.). DCist. <https://www.dcist.com/2021/06/23/one-in-three-d-c-area-residents-has-food-insecurity-in-2021-report-finds/>

Wards 7 and 8 are "food swamps": D.C. should make building grocery stores there a priority. (n.d.). Washington Post. <https://www.washingtonpost.com/2022/06/23/wards-7-and-8-food-swamps-d-c-grocery-stores-priority/>

Kochick, B. A., Watson, D., & Sherman, M. F. (2021). *Food Insecurity and Adolescent Psychosocial Adjustment: Indirect Pathways through Caregiver Adjustment and Caregiver-Adolescent Relationship Quality*. *Journal of youth and adolescence*, 54(1), 99-106. <https://doi.org/10.1007/s10826-020-01822-2>

Bahe, M. P., Mann, L. E., Coy, E., Hartley-Gashin, H. L., & Madae, R. L. (2016). *Severity of Household Food Insecurity Is Positively Associated with Mental Disorders among Children and Adolescents in the United States*. *The Journal of Nutrition*, 146(10), 2019-2026. <https://doi.org/10.3945/jn.115.2628>

(2023). *Homelessness.org*. <https://www.homelessness.org/>