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The Impact of Food Insecurity on Neurobehaviors

Madison Elliott, Mileni Casal, Kwaku Darkwah

Abstract

- The current study focuses on the impact of food insecurity on mental health and neurobehaviors.
- Food insecurity is a widespread issue that can have detrimental effects on multiple aspects of life.
- Data was collected using an anonymous online survey that was administered via Instagram, Facebook, Groupme, and messages.
- The survey further inquired about dietary restrictions, resilience, motivation, and mindset.
- Results indicate an indirect relationship between food availability and resiliency, motivation, and mental wellness.

Introduction

- The relationship between food insecurity and its effects on neurobehaviors is an area that has not been fully explored, hence, this study was conducted.
- Association between food insecurity and mental health outcomes was stronger for women, young adults, and individuals with lower incomes.
- 20.9% of U.S. households with children under 6 reported experiencing food insecurity (Knowles et al. 2016)
- Can lead to physical issues such as obesity, malnutrition, and chronic illnesses.

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- **Contact Information:**
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METHODS

DEMOGRAPHICS	MALES AND FEMALES; ADULTS; 18 AND OLDER
NUMBER OF PARTICIPANTS	69
SURVEY	IMPACT OF FOOD INSECURITY ON NEUROBEHAVIORS
DELIVERANCE	FACEBOOK, INSTAGRAM, TEXT MESSAGES, GROUPME

RESULTS

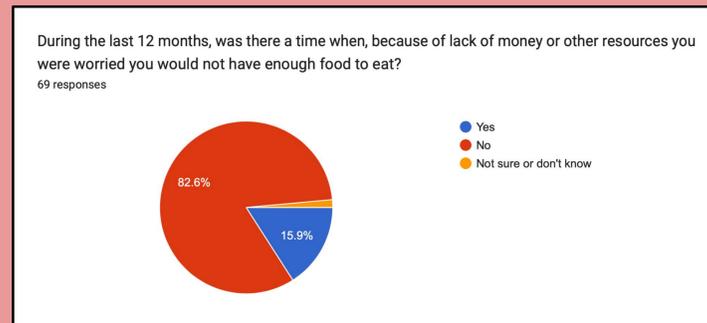


FIGURE 1: FREQUENCY OF FOOD INSECURITY EXPERIENCED AMONGST PARTICIPANTS

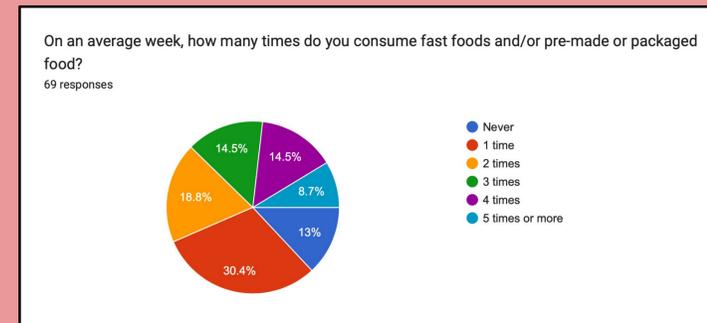


FIGURE 2: FREQUENCY OF FAST FOOD CONSUMPTION

FOOD AND FUNDS	• EATING NUTRITIOUS MEALS & SUFFICIENT FUNDS. (R= .573**)
NUTRITIOUS FOOD INTAKE AND RESILIENCE	• EATING NUTRITIOUS FOODS REGULARLY (LEAFY GREENS, KALE, ETC.) AND COMING THROUGH TOUGH TIMES WITH LITTLE TROUBLE (R= 0.301*)
STRESS AND RESILIENCE	• FEELING STRESSED & BOUNCING BACK FROM HARD TIMES. (R=-0.308**)

TABLE 1: POINTS OF SIGNIFICANCE BETWEEN FOOD INTAKE, STRESS, AND RESILIENCE

STRESS AND RECOVERY FROM TOUGH EVENTS	• FEELING STRESSED & NOT TAKING LONG TO RECOVER FROM STRESSFUL EVENTS. (R=-0.480**)
STRESS AND LEARNING	• FEELING STRESSED & STRESS FACILITATING LEARNING GROWTH. (R=-0.232**)
AGE AND FOOD INSECURITY	• COLLEGE STUDENTS & RUNNING OUT OF FOOD (R= .368**)

TABLE 2: POINTS OF SIGNIFICANCE BETWEEN STRESS, RECOVERY, LEARNING, AND AGE

Discussion

Our results suggest that:

- A relationship between food insecurity and unhealthy eating habits, such as eating less nutritious foods and skipping
- A relationship between unhealthy eating habits due to food insecurity and their negative impact on neurobehaviors (stress, anxiety, depression, eating disorders, mood)
- A relationship between increase in negative neurobehaviors and impact on taking long to bounce back from hard times, and declining learning growth.
- A relationship between college students and negative eating habits such as skipping meals, and running out of food

Our findings with:

- Food insecurity and unhealthy eating habits may be consistent with findings indicating various health issues including eating disorders/unhealthy coping mechanisms (Hazzard et al.,2020)
- Unhealthy eating habits and the negative impact on neurobehaviors correlate with findings suggesting food insecurity can cause toxic stress which can develop into long term emotional and physical hard to children (Knowles et al., 2016).
- Increased negative neurobehaviors and their effects on taking long to bounce back from hard times / declining learning growth may be consistent with research showing that poor diet-induced chronic stress causes fatigue-related symptoms of mitochondrial damage (Yilmaz, 2021)
- College students and negative eating habits can be supported with findings implying college students experiencing food insecurity may lead to consuming low-nutritional value foods / lack of sufficient food (Kendrick, 2022)

Conclusion

- Individuals facing food insecurity may also experience a negative impact on neurobehaviors such as stress, anxiety, depression, eating disorders, motivation, and mood)
 - Further evidence is needed to better understand the relationship between food insecurity and its impact on an individual's neurobehavior to determine effective ways to intervene.

References

