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Effects of Food Insecurity on Academic Motivation Amongst Undergraduate University Students



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Abstract

Food insecurity is a prevalent problem for undergraduate students. The stress associated with food insecurity may reduce academic motivation, which may be linked to academic performance. However, no reports exist in the literature assessing this relationship. An anonymous online survey targeting adults 18 years or older was distributed via social media platforms. The survey included demographic questions, the Food Insecurity Experience Scale, and the Academic Motivation Scale. Data was analyzed using Pearson's Correlation in SPSS Version 25.0. A total of 997 participants completed the survey. The results showed significant negative correlations between academic motivation and food insecurity and stress ($p < 0.01$). Caring about attending college and a household running out of food was negatively correlated ($p < 0.01$). Experiencing stress and being unable to eat healthy and nutritious food ($p < 0.01$) were positively correlated. Overall, food insecurity is linked to a negative state of mind, which may reduce academic motivation.

Introduction

- Food insecurity is a global phenomenon that is associated with various nutrition-related health outcomes such as dietary inadequacies, poor physical health, and low educational achievement/motivation (Jones 2017). Food insecurity has been linked to several mental disorders, as it can provoke stress and guilt responses that contribute to anxiety and depression (Jones 2017).
- Previous studies have found that food insecurity is correlated with poorer health outcomes such as depression, stress, and anxiety, as well as lower GPAs and poorer academic performance. (Payne-Sturges et al., 2017).
- Additionally, living in a food-insecure household had a positive correlation with poor self-reported health, emergency room visits, and any inpatient visits (Brucker 2016). Having a disability was also positively correlated with increased chances of decreased health outcomes (Brucker 2016). Living in a food-insecure household increased the chances of poor self-reported health and inpatient visits for adults with and without disabilities (Brucker 2016).
- Notably, there have been few studies that have investigated the individual components of food insecurity and how they can affect academic performance and motivation in undergraduate students.
- Our study aims to address this gap by investigating how components of food insecurity amongst undergraduate students affects academic performance and motivation.

Methods

- This study was a cross-sectional assessing food insecurity and extrinsic and intrinsic motivation. Data collection accrued between January 2022 to February 2023.
- The study protocol was reviewed and approved by the Institutional Review Board (IRB) at Binghamton University.
- Inclusion criteria were adults 18 years and older and . The link to the survey was distributed over several online platforms such as Facebook, Instagram, Snapchat, and Reddit.
- A descriptive consent form was included at the beginning of the survey that explained the purpose of the study and the protocol associated with the questionnaire.
- Participants consented to the study by accessing the questionnaire.
- Demographic questions included gender, whether not you are enrolled in a college or not, age, region of residence, personal income, how many hours a week one works, total household income, SNAP eligibility, the highest level of education, cumulative GPA, how frequent one participated in 20 minutes of exercise a week, typical dietary style, and how many times a day one thought of food.
- The anonymous questionnaire consisted of one scale: The Academic Motivation Scale (AMS).
- The Academic Motivation Scale (AMS) measures the extrinsic and intrinsic motivation levels of students toward learning/education. The scale indicated to what extent a person attended college. The score assigned to AMS responses was: Does not correspond at all - 0, Corresponds moderately - 4, and Corresponds exactly - 7.
- To measure the statistical relationship between two continuous variables, data were analyzed using a two-tailed Pearson Correlation Coefficient in SPSS Version 25.0.

Discussion

- An inverse correlation was detected between food insecurity and academic motivation specifically for feelings of wasting time in school, skipping a meal, experiencing stress, only eating a few kinds of food, and fast food consumption.
- Food insecurity amongst college students is associated with poor time management due to multiple classes during the daytime, which results in a variety of health and academic issues (Friedman et al., 2016). This may explain why food insecurity displayed a positive association with decreased academic motivation in this study.
- Poor academic performance in terms of GPA and being food insecure was linked to poor psychosocial health among predominantly White and Black college students (Raskind et al., 2018). Many of these students work part-time and came from families who did not have a higher education other than high school, which can account for difficulty with completing the college degree, anxiety, depression, and difficulty making decisions.
- Fruit and vegetable consumption are both important for an increase in academic performance (Florence et al., 2008). For instance, a healthy breakfast through school breakfast programs would allow for more efficient cognitive functioning and academic performance, especially for malnourished students.

Results

Relationship	Pearson Coefficient
Feelings of wasting time in school and worries of not having enough to eat	.111**
Once having good reasons to go to college and skipping a meal	.204**
Caring about attending college and one's household running out of food	.113*
Relationship	Pearson Coefficient
Experiencing stress depleting health and vitality and being unable to eat healthy and nutritious food	.131**
Experiencing stress weakens performance and productivity and only eating a few kinds of foods	.123**
Experiencing intense feelings when communicating with others and consuming fast foods	.302**
Experiencing intense feelings when reading various interesting topics and dark leafy green vegetable consumption	.192**

- Positive correlations between food insecurity and skipping a meal, intense feelings, and stress
- ** = $p < 0.01$

References



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