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Effects of Food Insecurity on Perceived Stress Among Undergraduate University Students



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Abstract

Food insecurity is a rising problem on college campuses. The added pressure and worry over food availability impacts students' mindset and their perception of stress. However, research investigating this relationship is limited. To address this gap, an anonymous online survey was distributed via social media platforms to adults 18 years and older. The survey included demographic questions, the Food Mood Questionnaire, and the Perceived Stress Scale. A total of 997 people completed the survey, including 705 females, 246 males, and 46 others. Data was analyzed using Pearson's Correlation Coefficient in SPSS Version 25.0. A significant positive correlation was found between food insecurity and perceived stress ($p < 0.01$). Significant negative correlations between the consumption of dark green leafy vegetables and fruit with perceived stress ($p < 0.01$) were also found. This suggests that students experiencing food insecurity may consume less nutritious foods and perceive themselves as more stressed.

Introduction

- Food Insecurity affects 12% of US households. It is defined as the limited availability of nutritionally adequate and safe foods or an uncertain ability to acquire nutritious foods in socially acceptable ways (Lopez-Cepero et al, 2019).
- Perceived stress is the feelings or thoughts that an individual has about how much stress they are under at a given point in time or over a given time period (Phillips, 2013)
- Psychosocial stress has been reported to be associated with physical and mental health. The buildup of stress over long periods of time can lead to biological changes that weaken stress-related adaptation processes and increase disease susceptibility (Shin and Kim, 2019)
- Chronic stress associated with food insecurity promotes the consumption of comfort foods that are high in sugar and fat (De Vriendt et al, 2012).
- Research shows that people experiencing periods of stress report overeating unhealthy foods, that they would normally avoid, and less consumption of vegetables (Mikolajczyk et al, 2009)
- There is a positive association between food insecurity and stress, but this relationship is still understudied amongst college students (Lopez-Cepero et al, 2019). Therefore, the purpose of this study is to fill this gap and investigate this relationship in college students.

Methods

- Adults 18 years or older were invited to complete an anonymous questionnaire on the impact of food insecurity on perceived stress through online platforms such as groupme, instagram, reddit, and facebook from August 2022 - February 2023.
- A consent form that explained the purpose of the study and the protocols was built-into the survey
- The survey included the Food-Mood Questionnaire and the Perceived Stress Scale that evaluated their perceived stress, mental distress, and food consumption.
- The questionnaire included questions about demographics, dietary and exercise lifestyle, and thoughts about food and eating habits
- Data was analyzed using a two-tailed Pearson correlation coefficient in SPSS version 28.0.

Results

A total of 997 people completed the questionnaire in which 705 were females, 246 were males, and 46 others.

Perceived Stress and Food Insecurity

	Ate Unhealthy Foods	Hungry but Didn't Eat	Worried Not Enough Food
Nervous and Stressed	0.162**	0.150**	0.156**
Could Not Cope With All Tasks	0.207**	0.208**	0.188**
Confident Handling Problems	-0.147**	-0.126**	-0.104**
Things Were Going Your Way	-0.140**	-0.130**	-0.168**

Table 1: Relationship between perceived stress and food insecurity. Statistical significance is indicated by ** (** = $p < 0.01$)

Positive correlation between perceived stress and signs of food insecurity

Perceived Stress and Vegetable and Fast Food/Packaged Food Consumption

	Dark Green Leafy Vegetables	Fast Food and/or Packaged Food
Nervous and Stressed	-0.088**	0.175**
Could Not Cope With All Tasks	-0.104**	0.150**
Confident Handling Problems	0.159**	-0.122*
Things Were Going Your Way	0.132**	-0.129**

Table 2: Relationship between perceived stress and consumption of leafy green vegetables and fast/packaged food. Statistical significance is indicated by ** (** = $p < 0.01$)

Negative correlation between perceived stress and vegetable consumption

Positive correlation between perceived stress and fast/packaged food consumption

Discussion

- Individuals expressing signs of food insecurity felt less capable of handling problems and responsibilities and had a worse outlook on the way things were going in their life. This can be explained as people facing food insecurity are not only not intaking proper nutrients, but also experience the added pressures of worrying where their next meal will come from and what it will contain. The added pressure creates distraction from other responsibilities individuals are responsible for, creating more stress (Lopez-Cepero et al, 2019).
- Individuals who consumed more dark green leafy vegetables felt more capable of handling problems and responsibilities and had a more positive outlook on how things were going in their life as they felt less stressed and nervous overall. This finding matches previous literature which found that consumption of vegetables was negatively associated with less perceived stress (Mikolajczyk et al, 2009).
- Individuals who consumed fast food and/or packaged food more often were less confident handling problems and less likely to have a positive outlook on how things were going in their life. This finding can be explained by a bidirectional relationship between stress and diet, as scientific literature has found that perceived stress not only increases food consumption in general, but also shifts food choices from lower fat to higher fat foods, such as fast and packaged foods (Mikolajczyk et al, 2009).

References



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