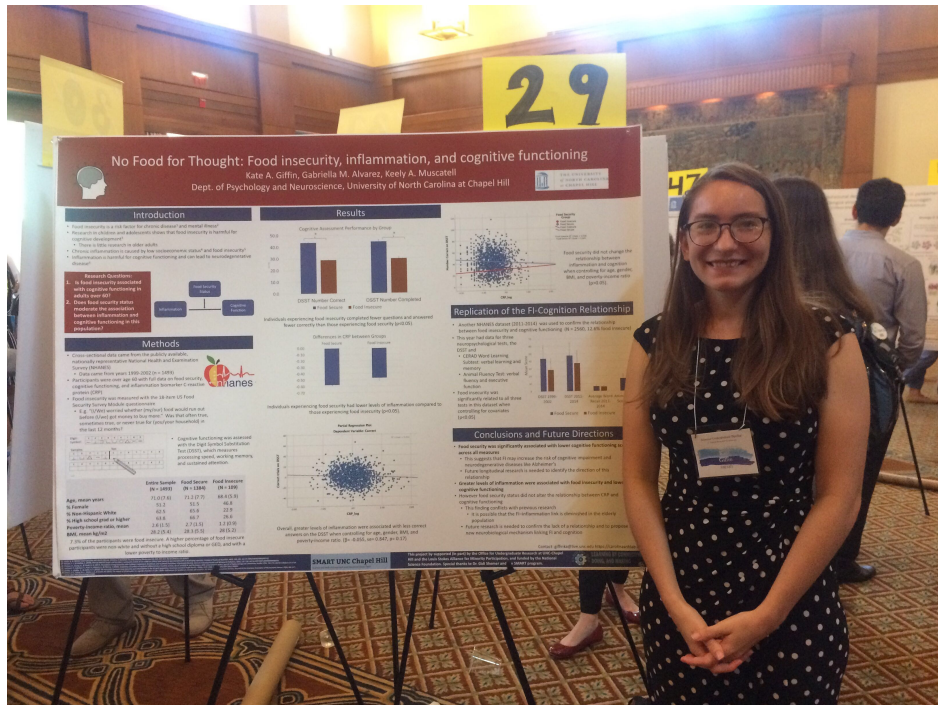


No Food for Thought: Food insecurity, inflammation, and cognitive functioning



Kate Giffin, Biology major, Neuroscience minor

Faculty Advisor: Dr. Keely Muscatell,
Department of Psychology and Neuroscience

Background + Research Questions

- ▶ **Food insecurity is a risk factor** for chronic disease and mental illness
- ▶ Research in children and adolescents shows that **food insecurity is harmful for cognitive development**
 - ▶ But there is little research in older adults
- ▶ Chronic inflammation is caused by low socioeconomic status and food insecurity
 - ▶ Inflammation is harmful for cognitive functioning
- ▶ **Is food insecurity associated with lower cognitive functioning in older adults?**
- ▶ **Does food security status moderate the association between inflammation and cognitive functioning in this population?**
 - ▶ I.e. is inflammation the biological pathway through which food insecurity impacts cognition?

This research matters because a) food insecurity is a major social problem that needs to be addressed and b) it is important to identify risk factors for neurodegenerative diseases so they can be prevented

Results + Significance

- ▶ **Food security was significantly associated with lower cognitive functioning scores across all measures**
 - ▶ Food insecurity may increase the risk of cognitive impairment and neurodegenerative diseases like Alzheimer's
 - ▶ Future longitudinal research is needed to identify the direction of this relationship
- ▶ **Greater levels of inflammation were associated with food insecurity and lower cognitive functioning**
- ▶ However food security status did not alter the relationship between inflammation biomarkers and cognitive functioning
 - ▶ This finding conflicts with previous research
 - ▶ It is possible that the FI–inflammation link is diminished in the elderly population
 - ▶ Future research is needed to confirm the lack of a relationship and to propose a new neurobiological pathway linking FI and cognition