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### The Association Between Diet Quality and Stress Response

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# The Association Between Diet Quality and Stress Response

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HWS 332  
CURE

## Abstract

- We looked into the variety and quality of diets and its association with stress response.
- An anonymous online survey was administered through Google Forms and sent out to the public across several social media platforms, including Instagram, Groupme, and Facebook.
- The survey included basic demographic questions and questions on diet and mental health.
- Pearson Correlation Coefficient was used to analyze data in SPSS version 28.0.
- There is an association between poor diet and a negative perception of stress.
- The results display the majority of participants have a slightly negative outlook on stress while consuming a Western diet.
- This suggests that a better balanced diet may lead to a decrease in negative perceptions of stress and improve outlook on life.

## Introduction

- Studies on stress, anxiety, and depression in relation to adherence to the Mediterranean diet suggest that strict adherence lowered prevalence of depression by 59% compared to less strictly adhering to it. (Tehrani et al., 2018)
- The DASH diet which is rich in plant proteins from nuts and legumes, fruits, veggies low fat dairy and restrict red meat, sweet and sugar sweetened food was beneficial on anger, depression, anxiety, tension, vigor, and PMOS global score (Arab et al., 2018)
- Those who follow the Mediterranean Diet are 43% more likely to achieve 6-7 hours of sleep per night and is associated with reduced risk of insomnia (Bremner, et al., 2020)
- When one is stressed highly palatable foods seem more appealing than if not stressed. This is because these reward foods will relieve stress by sending signals to the brain to tone down the stress response system. There was a strong association between internal motivation, stress levels, and diet quality (a good diet). (Mooney et al., 2021)

## Acknowledgements

- Thank you to our professor, Dr. Begdache, and TA, Thomas Lavin. We would also like to thank our classmates and those who participated in our survey.

## Methods

Demographics	Male and female: ages 18 years and older
Number of participants	281
Survey	Diet and Mindset
Deliverance	Word of mouth, Instagram, GroupMe, Facebook, Snapchat, imessage, and WhatsApp

## Results

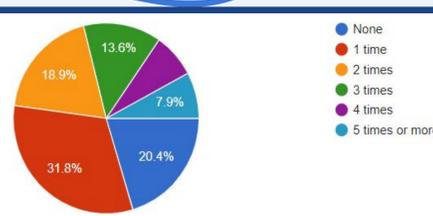


Figure 1. Reports of consuming fast or pre-made food in a week with 31.8% eating it once a week and 20.4% not eating any in the week.

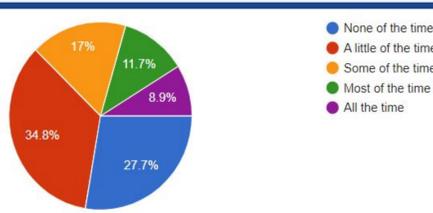


Figure 2. Reports of feeling that everything was an effort with 34.8% thinking this a little of the time and 27.7% thinking this none of the time.

<b>Fast Food &amp; Depression</b>	Strong positive correlation between being depressed and consuming fast food. N=275, p=0, r=0.257**	<b>Whole Grains &amp; Bouncing Back</b>	Strong positive correlation between eating whole grains and being able to easily recover from stressful times N=280, p=0.003, r=0.175**
<b>Fast Food &amp; Stress Depleting Health</b>	Significant positive correlation between eating fast food and believing stress depletes their health and vitality N=279, p=0.035, r=0.126*	<b>Fruits &amp; Hard Time Making it Through Stressful Times</b>	Strong negative correlation between eating fruits and having a hard time making it through stressful times N=280, p=0.003, r=-0.175**

Table 1. Points of significance between stress and diet.

Table 2. Points of significance between stress and diet.

## Discussion

Pearson Correlation Coefficient was used to analyze data in SPSS version 28.0. There is an association between poor diet and a negative perception of stress

Based on our results we see that:

- Higher consumption of fast/processed foods appears to be associated with a negative outlook on stress in general
- A positive correlation exists between higher consumption of fast/processed food and depressive thoughts and emotions
- Higher consumption of healthier foods, such as whole grain, fruits, and vegetables, have a correlation with having a more positive outlook on stress and having a more resilient stress response

## Conclusion

- An overall positive correlation exists between a healthier diet and having a positive outlook on stress and stress response
- There is a significant negative correlation between consuming healthier foods and having depressive thoughts and negative emotions

Recommendations include

- Avoiding fast food and highly processed food, mostly cooking at home to ensure you are consuming a more nutrient-filled diet
- Recognizing the correlation between your diet and stress resilience
- Maintaining a well-balanced, nutrient dense diet

Further research may involve expanding the age range of the sample participants to include predominantly older or younger age groups, as most participants were between the ages of 18-22

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