Investigating the Correlation Between Diet Quality and Psychological Resilience Abdurasulova, J., Andersen, M., Giordano, M., Morrissey, S., Schooley, I. B. BINGHAMTON HWS 332 CURE UNIVERSITY Faculty: Lina Begdache

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Abstract

- Psychological resilience is associated with numerous positive mental health outcomes. • Our study examines the correlation between diet quality and psychological resilience. An anonymous survey was administered digitally and was shared by group members through
- social media platforms and flyers posted throughout the Binghamton University campus. • The survey included questions regarding demographic and lifestyle information, nutrition habits, psychological resilience and flexibility, and recent experiences with emotions.
- A healthy balance of whole grains (p<0.01), vegetables (p<0.05), meat (p<0.05), and carbohydrates (p<0.05) is associated with increased psychological resilience. Comparatively, legumes (p<0.05) and caffeine (p<0.05) consumption are associated with lower reported psychological resilience.
- These findings emphasize the importance of improving diet quality for the overall psychological health of people as a simple and non-pharmaceutical way for all people to improve their psychological health, making it an accessible route for multiple populations.

Introduction

- Psychological resilience is the ability to bounce back or recover from stress, the process or outcome of successfully adapting to challenging or difficult situations, as well as one's ability to cope mentally and emotionally within a crisis (Robert et al., 2022).
- Previous research has indicated that the diet aspects of whole grains, fruits and vegetables, seafood, and nuts are associated with increased psychological resilience.
- Diet quality is related to brain chemistry (Gómez-Pinilla et al., 2010). Factors of brain function that have been shown to be impacted by diet quality are synaptic plasticity, gut hormones that can enter the brain, and neuronal function, thus impacting psychological resilience and stress response.
- Factors in both the CNS and PNS have been implicated in the promotion of psychological resilience (Cathomas et al., 2019).
 - CNS: increased hippocampal neurogenesis & upregulation of K+ channels in the VTA (ventral tegmental area).
 - PNS: increased bifidobacterium and lactobacillus rhamnosus in the gut.
- Mediterranean-style diet, mainly those rich in polyphenols and antioxidants, have been consistently associated with increased psychological resilience and improved mental wellbeing (Bonaccio et al., 2018; Parletta et al., 2019).
- This study looks into the impact of diet quality on the psychological resilience of individuals through a self-report questionnaire.

Methods

- Demographic information regarding gender, age, and role at the university was collected for all participants (N = 92).
- Data was collected through the MAL Model & Psychological Flexibility Survey via Google Forms.
- For purposes of participant recruitment and data collection, he survey was distributed through text message, GroupMe, flyers, social media, and email.
- Data was analyzed using SPSS Version 28.0 and the Pearson's Correlation was calculated.

Male

🛑 Female

Transgender Female

Prefer Not to Answer

Gender Variant/Non-conforming

Transgender Male

Figure 1. Gender Demographics Gender: 92 responses



Figure 2. Age Demographics

Age: 92 responses

30.4%

Student

Faculty 😑 Staff

Other

Figure 3. University Relations Demographics

Are you a student, faculty, or staff? 92 responses

Health and Wellness Studies Department



making it through

stressful events.

"I tend to take a long

time to get over

setbacks in my life."

Decreased

Psychological

Resilience

Figure 5. Caffeine Consumption

On an average week, how many times do you consume coffee or other source soda, tea, chocolate, energy drink, etc.)



Figure 7. Meat Consumption

On an average week, how many times do you consume red meat, chicken, or turkey?

None

🛑 1 time

😑 2 times

3 times

4 times

5 times or more



Figure 9. Bean Consumption

On an average week, how many times do you consume beans? (e.g. black beans, black-eyed peas lentils, lima beans, soy nuts, etc)

None

🛑 1 time

🛑 2 times

3 times

4 times

5 times or more



Statements and Dietary Aspec

orrelated Dietary	Pearson's
Aspect	Correlation
Whole Grains	0.227*
Legumes	-0.222*
Caffeine	-0.259*
Protein	0.235*
Whole Grain	0.248*
Vegetable	0.223*
Whole Grains	-0.295**
Pasta/Rice	-0.235*
Whole Grains	-0.224*

- consumption of whole grains, proteins, pasta/rice, and vegetables.
- carbohydrates.
- Firth and colleagues (2020).
- $(r = -.295^{**})$ was the highest among all data.
- second strongest correlation from the collected data.
- (Firth et al., 2020).

Future Work and Limitations

- Future Work could:

 - show correlations with different aspects of diet quality.
- Limitations included:
 - analyses.
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Discussion and Conclusion

• The data shows a positive correlation between increase psychological resilience and the

• Whole grains showed to have a strong positive correlation in two statements directly related to increased psychological resilience as well as showed a negative correlation with two statements regarding decreased psychological resilience, which strengthens the idea that whole grains are associated with increased psychological resilience.

• Previous research suggests that following a Mediterranean diet, leads to increased psychological resilience compared to more Western diets (Firth et al., 2020; Flor-Alemany et al., 2022; Robert et al., 2022), although our data showed a correlation with pasta which does not agree with these findings, as pasta tends to fall into the category of refined

• Our research showed a positive correlation between an increase in psychological resilience and whole grains, vegetable, and protein consumption, which did match the findings of

• The correlation between whole grain consumption and increase psychological resilience

• Caffeine consumption leading to decreased psychological resilience $(r = -.259^*)$ was the

• Legume consumption was negatively correlated with psychological resilience. However, other studies found that legume consumption was positively correlated with psychological resilience

• We theorize that the negative association found in this study could be because people who are more likely to consume legumes are likely to be vegetarian or vegan - in which case, they may have other nutritional deficiencies unaccounted for in this survey.

• Investigate the potential role of vegan and/or vegetarian diets on psychological resilience. • Further investigate psychological flexibility further, studying how it may be associated with

psychological resilience, and it could have similar correlations with diet and how it may

• Experiment with diet quality as to use the diet correlations found to see if increased consumption of these foods increases psychological resilience in participants.

• A limited number of individuals participated in the study. An increased number of participants would increase accuracy of the data and provide a grander perspective of the

• Some aspects of diet quality received incredibly few reports of consumption, limited our analysis. For example, only 4 out of the 92 participants reported consuming fish oil at all.

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