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Diet and Mood

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Correlation Between Trans Fat Consumption and Depression

Abstract

- Diets high in trans fats have been linked to mental health issues such as depression and anxiety
- We studied the correlation between trans fat consumption and depression symptoms in young adults to examine the relationship between diet and mood
- How does eating trans fats consumptions in fast food relate to depression?
Using a short survey, we collected data on the nutritional habits of 95 individuals
- We found a significant correlation between eating processed foods and feelings of hopelessness and depression

Introduction

- By obtaining data through a cross section analysis, we were able to grasp a better understanding of the various effects diet can have on a person's mood
- Trans fat consumption in the western diet has been linked to health risks and mood disorders such as depression.
- Trans fats have inflammatory properties that may exacerbate depression and anxiety (Baer et al, 2004)
- Previous studies have found a dose related correlation between trans fat consumption and increased risk of depression (Sánchez-Villegas et al, 2012)
- Trans fats may also impact membrane fluidity and neuronal communication in the brain (Li et al, 2020)
- The purpose of our study was to explore the relationship between trans fat consumption and symptoms of depression and anxiety through a food frequency questionnaire.
- We expected to find a direct correlation between trans fat consumption and depression/depressive symptoms

Acknowledgements

- A special thanks to Dr. Begdache, our TA Alex Talkachov, and the HWS department for their help in our research!

Methods

- Data collected was through a cross-sectional study
- A survey assessing diet and mood was distributed through social media, word of mouth, and group chats
- The survey consisted of 28 questions on that each had 5-6 different responses options for the participant of the survey to answer
- After collecting data from the participants, we organized the data by coding each questions response in an ordered format.
- A total of 95 participants responded
- Data was analyzed using Pearson Coefficient SPSS Version 28.0

Results

Figure 1- Gender Identity of Participants

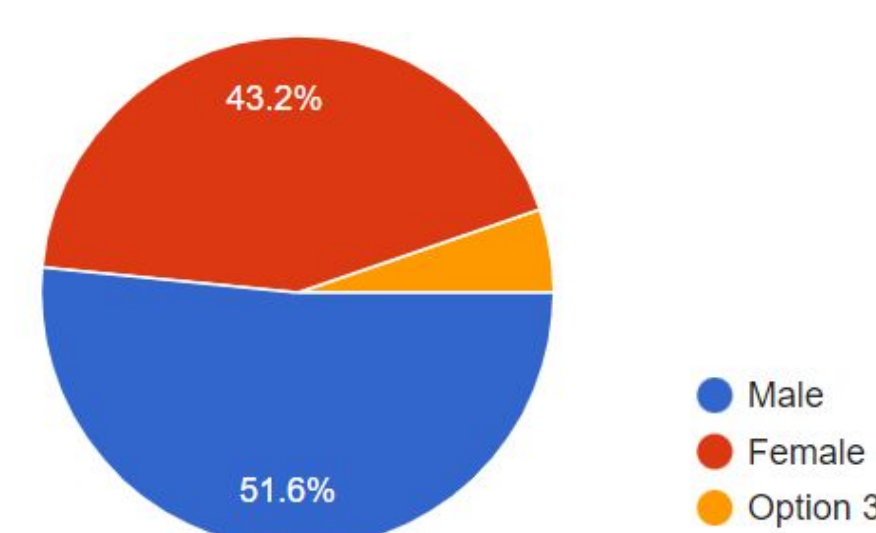


Figure 2- Age of Participants

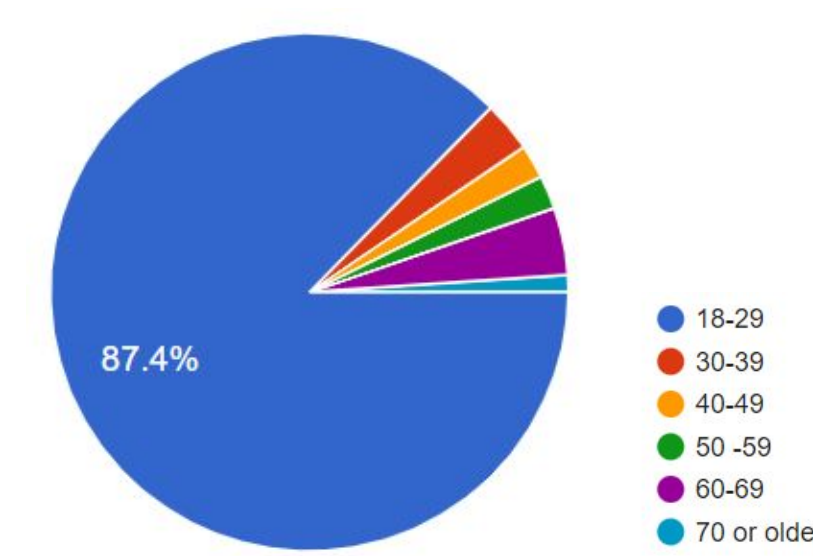


Figure 3- Dietary Patterns of Participants

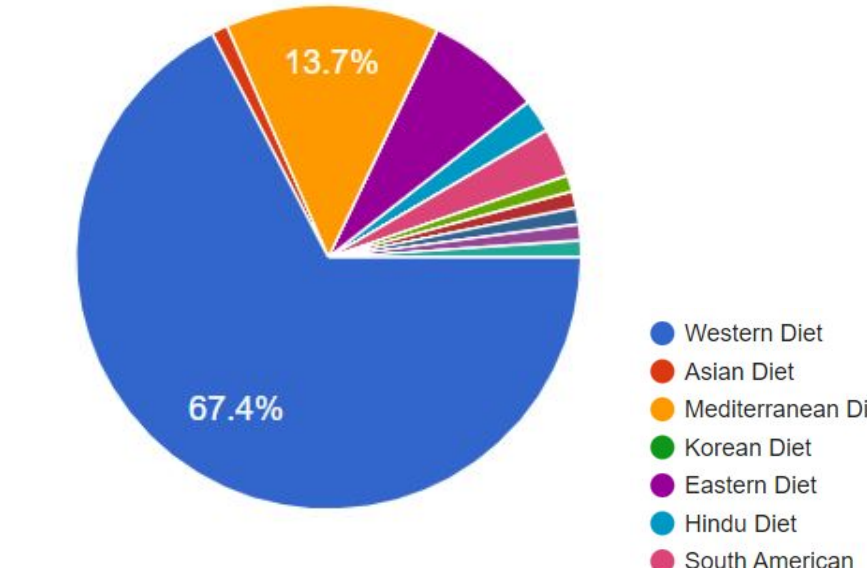


Figure 4 - Amount of Breakfast Eaten in a Week

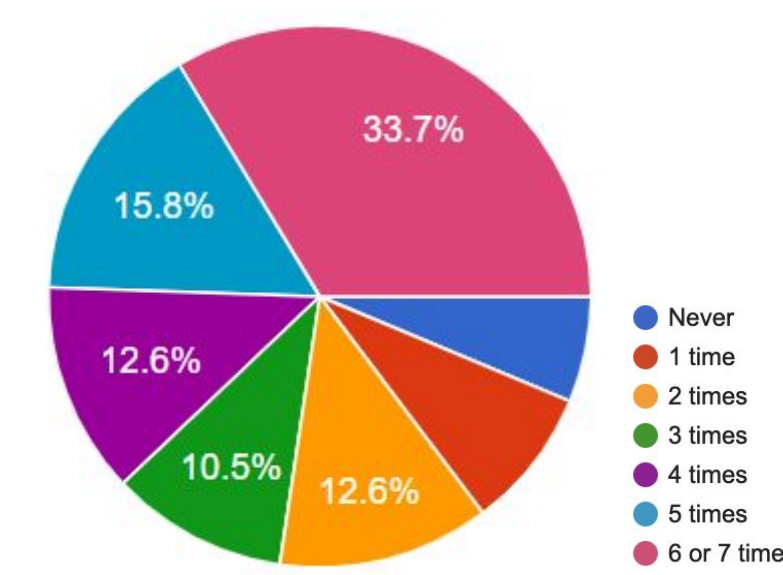


Table 1- Relationship between Eating Breakfast and Depressive Symptoms in the Last Month

Relationship	Correlation
Feeling that everything was hopeless in the last month	-.285**
Feeling so depressed that nothing could cheer you up	-.376**

Table 2- Relationship Between Consumption of Fast Food/Pre-Packaged Foods and Feelings of Depression in the Last Month

Relationship	Correlation
Feeling that everything was hopeless in the last month	.243*
Feeling so depressed that everything is an effort	.299**

Table 3- Relationship Between Feelings of Restlessness and Consumption of Certain Foods

Relationship	Correlation
Sugar	-.306**
Flaxseeds	.324**

$p < 0.05 = *$ $p < 0.01 = **$

Discussion & Conclusion

Our findings include...

- A relationship between pre-packaged/fast food and feelings of hopelessness & depression.
- A relationship between breakfast eating patterns and depression.
- A relationship between feeling restless and consuming sugary processed foods
- A negative correlation was found between eating flax seeds and feeling restless
- From our sample, demographics were evenly distributed among sexes, focused on college students with a Western Diet.

What does this mean?

- Our findings with eating pre-packaged & fast food five or more times in a week was linked to feelings of hopelessness & depression. This is expected since these options are rich in trans fat, which prior research agrees with (Ford et. al, 2016). - The inflammatory effects of a diet high in calories & saturated fats may have detrimental effects on the brain health (Firth et. al, 2020).
- Our findings showed that eating breakfast 5 or more times a week was negatively correlated with depression. Healthy food choices could strengthen this correlation and can decrease cortisol & adrenaline levels in the morning.

In conclusion,

- Improvement of eating habits towards healthier diets may be an effective approach for overall mental health.
- Eating processed food multiple times a week may impact mood negatively.
- Skipping breakfast regularly and eating sugary foods may also impact mood.

Future Work and Limitations

- The sample size should see an increase in order to be able to have more accurate correlations in the data
- The demographic of the sample size should see more of a diversity in age, and diet followed
- Further research may be interested in those who are currently prescribed depression medication.
- Additionally further research is needed to investigate the relationship between trans fat consumption, inflammation, and mood.

References

