

# Picky Eating in Relation to Avoidant/ Restrictive Food Intake Disorder in High School Students

By Zoe Falcone, Senior

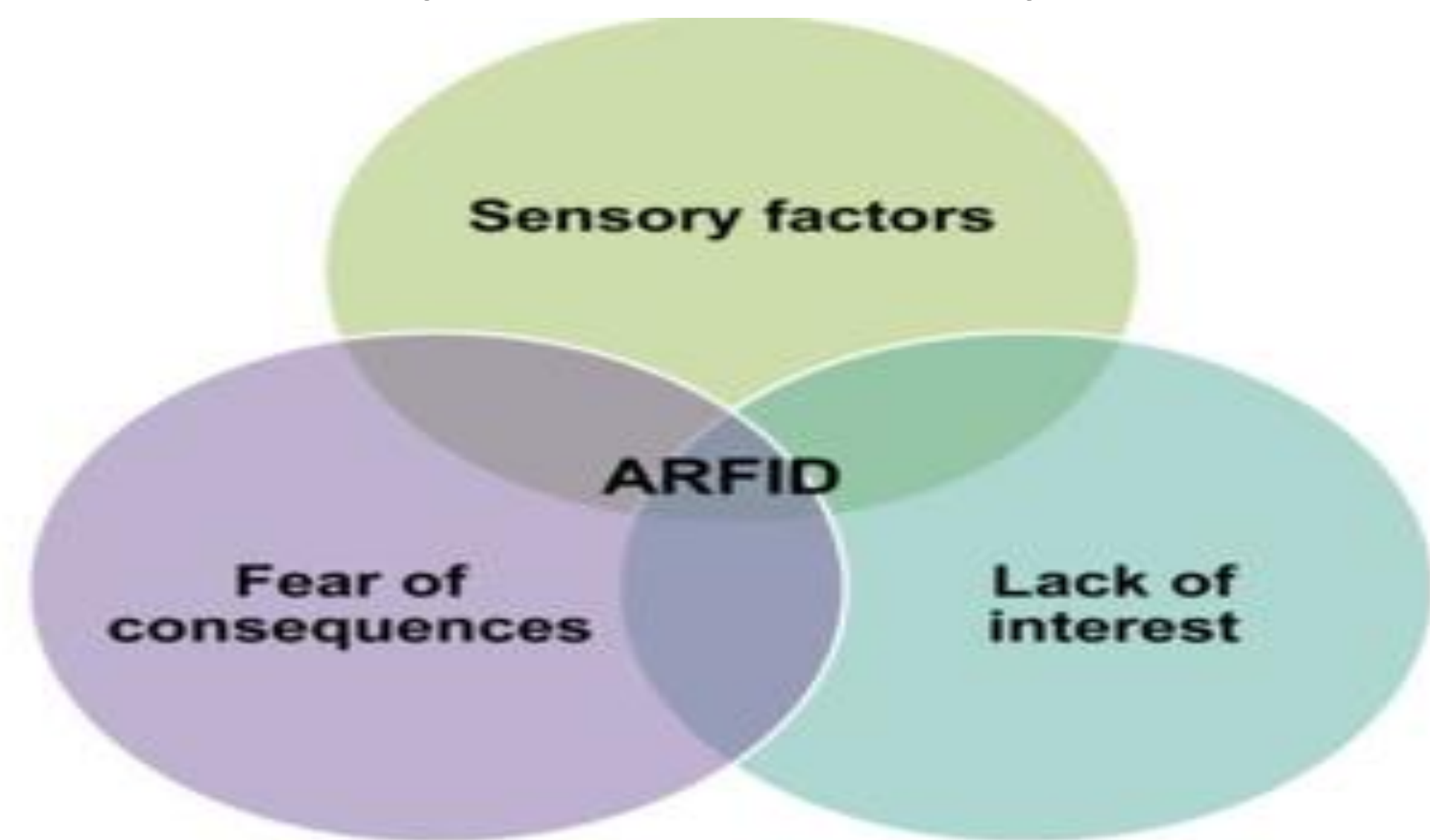
## Abstract

Many children go through phases of picky eating or selective eating, however this refusal to eat may escalate into a worsened condition. It is thought that if children that don't outgrow picky eating or suffer from severe picky eating may be at a higher risk for eating disorders such as Avoidant/Restrictive Food Intake Disorder (ARFID). A 4-point Picky Eating in Relation to Avoidant/ Restrictive Food Intake Disorder questionnaire was created and administered. This study would determine if children who don't outgrow picky eating or have severe picky eating are at a higher risk of developing ARFID; as well as discern what the predictors of being a picky eater are and how they relate to Avoidant/Restrictive Food Intake Disorder.

## Introduction

Avoidant/Restrictive Food Intake Disorder (ARFID) is an eating disorder characterized by lack of interest in food, avoidance based on sensory characteristics of food or concern about the unpleasant consequences of eating (i.e. choking, vomiting, etc.). This disorder presents as constant failure to meet appropriate nutritional and energy needs, significant weight loss or failure to meet expected weight, significant nutritional deficiency, dependence on nutritional supplements and/or enteral feeding, and/or significant interference in psychosocial functioning (Feillet, 2019). It is thought that pressure from parents to eat, high disgust sensitivity, negative experience with food, and picky eating behavior may be stressors for ARFID (Feillet, 2019).

It is thought that Avoidant/Restrictive Food Intake Disorder (ARFID) is significantly related to picky eating. Picky eating has been found to be characterized by high food pickiness, slowness when eating, and less satiety responsiveness in conjunction with low enjoyment of food and low food responsiveness (Tharner, 2015). Similarly, in another study ARFID is characterized by low body weight, slowness in eating, and low food responsiveness (Dovey, 2019).



## Hypothesis

There are clear predictive factors of picky eating that relate to an eating disorder called Avoidant/ Restrictive Food Intake Disorder (ARFID).

## Methodology

### ➤ Setting and Participants

The setting of this experiment was New Paltz Central High School in New Paltz, New York. The survey was given to all grade levels (Freshmen, Sophomores, Juniors, and Seniors). 146 students participated and completed the survey.

### ➤ Assessment and Measures

The survey asked questions about the predictive factors of Picky Eating like outlook on own body image, open-mindedness, willingness to attend social functions, gender, and sensory issues. The next section of the survey asked questions relating to the symptoms of Picky Eating. The third section asked questions about the warning signs and symptoms of Avoidant/Restrictive Food Intake Disorder. All together this was a 4-point survey with 1 being "not at all", 2 being "not really", 3 being "somewhat", 4 being "very much". The data analysis portion was done by creating three subscales to determine whether Picky Eating, along with predictors of Picky Eating, in combination, significantly predict tendencies toward Avoidant/Restrictive Food Intake Disorder (ARFID). The three subscales were: Predictors of Picky Eating, Picky Eating, and ARFID.

Do you refuse to eat new foods when you are introduced to them?

- Not at all
- Not really
- Somewhat
- Very much

Would you feel ok not knowing what your caregiver was making for dinner?

- Not at all
- Not really
- Somewhat
- Very much

Will you refuse to eat something if someone else made it?

- Not at all
- Not really
- Somewhat
- Very much

## Results

The Independent Samples t-test examines the averages of two independent groups to determine if the scores are significant and relevant. In this test, the Predictive Factors subscale p score was higher than 0.5 making the scores for this group possibly by chance. However, the Picky Eating and ARFID subscales had p values slightly below 0.5 meaning the scores from this group are relevant.

Independent samples t-test	Mean difference
Diagnostic Factors	.564425
Picky Eating	.01415
ARFID	.019037

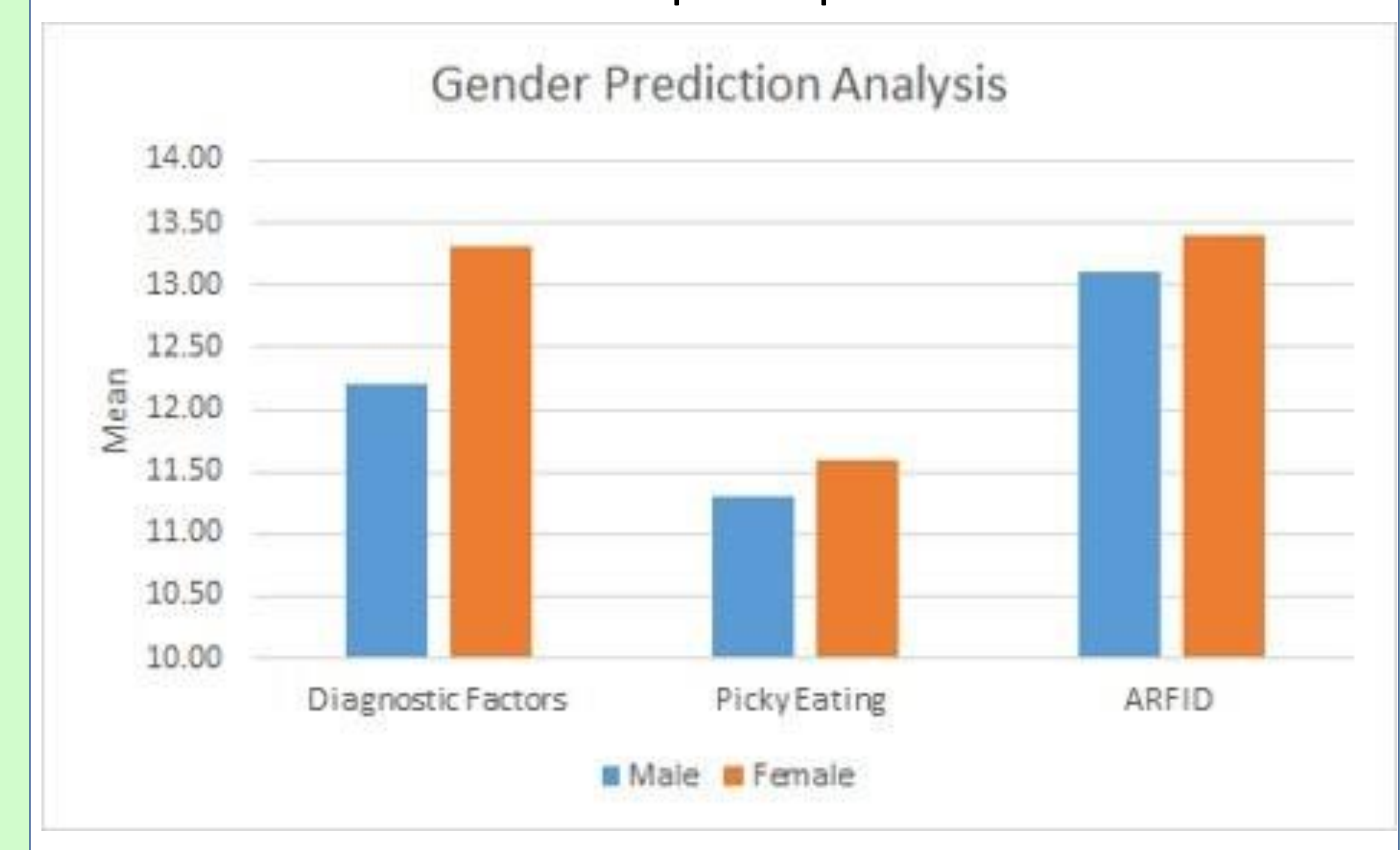
### ➤ Correlation Analysis

A correlation analysis examines the strength of the relationship between two variables. All three subscales had an r value close to 1 meaning they have a strong positive correlation with each other. So, if someone scores high on one subscale, they will also score high on the other two subscales. Similarly, if someone scores low on one subscale, they will most likely score low on the other two subscales as well.

Sub Scale Correlation	Diagnostic Factors	Picky Eating	ARFID
Diagnostic Factors	1	.666	.705
Picky Eating	-	1	.699
ARFID	-	-	1

### ➤ Group Statistic

The total scores for each person were averaged into groups based on gender. From here a gender prediction analysis was made comparing average gender scores for each subscale. The Predictive Factors subscale, data showed that female participants scored slightly higher than males. For the Picky Eating subscale females had a slightly higher mean score than male participants. For the third subscale, Avoidant/ Restrictive Food Intake Disorder, female participants had a slightly higher mean score than the male participants.



## Literature Cited

Avoidant Restrictive Food Intake Disorder. National Eating Disorder Association, 2018, [www.nationaleatingdisorders.org/learn/by-eating-disorder/arfid](http://www.nationaleatingdisorders.org/learn/by-eating-disorder/arfid).

Tharner, A., Jansen, P. W., Kieft-de Jong, J. C., Moll, H. A., van der Ende, J., Jaddoe, V. W., ... Franco, O. H. (2014). Toward an operative diagnosis of fussy/picky eating: a latent profile approach in a population-based cohort. *International Journal of Behavioral Nutrition and Physical Activity*

Dovey, T. M., Kumari, V., & Blissett, J. (2019). Eating behaviour, behavioural problems and sensory profiles of children with avoidant/restrictive food intake disorder (ARFID), autistic spectrum disorders or picky eating: Same or different? *European Psychiatry*

Feillet, F., Bocquet, A., Briend, A., Chouraqui, J.-P., Darmaun, D., Frelut, M.-L., ... Dupont, C. (2019). Nutritional risks of ARFID (avoidant restrictive food intake disorders) and related behavior. *Archives de Pédiatrie*.

Galloway, A. T., Lee, Y., & Birch, L. L. (2003). Predictors and consequences of food neophobia and pickiness in young girls. *Journal of the American Dietetic Association*

## Discussion

The present experiment aimed to determine what the possible predictors of picky eating were and if they were also related to ARFID. From this it could be distinguished how closely related the two disorders are. All three statistical analysis tests, independent samples t test, group analysis, and correlation analysis, supports my hypothesis. The group statistic test found that there is more variation in the male scores and contrary to the hypothesis, females scored higher on each subscale. From the correlation analysis it was seen that all three subscales had strong positive correlation with each other; meaning if a person scored high on one subscale, they also scored high on the other two subscales.

## Conclusion

Since the predictive factors here (Gender, outlook on body image, willingness to attend social functions, open mindedness, and sensory issues) are supported to be relevant, then the ability to distinguish picky eating and ARFID in adolescents may be easier and can be diagnosed earlier. Furthermore, this study shows that picky eating may be a precursor for Avoidant/ Restrictive Food Intake Disorder it can be recognized and treated at an earlier stage before the disorder can progress further; potentially seriously impairing someone's social, mental, and physical functioning. However further experimentation is needed to support this claim.

## Acknowledgments

- My Mentor, Dr. Glenn Geher.
- My Science Research teacher, Mr. Seweryn