



# Correlation Between Morningness/Eveningness and Introvertedness/Extrovertedness



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## Introduction

### MORNINGNESS + EVENINGNESS

Morningness and eveningness are terms coined and defined by a questionnaire called the Morningness/Eveningness Questionnaire (MEQ). The questions asked are related to one's ease of working at different times in the day. If someone scores anywhere from a 16-41 on this scale, they express eveningness, and if they score a 59-86, they express morningness (Horne, J., Östberg, O., 1976).

### INTROVERTEDNESS + EXTROVERTEDNESS

Introvertedness and extrovertedness can be defined by the Eysenck Personality Questionnaire, which gives a numerical number that can determine whether a person is an introvert or an extrovert. Extrovert means that you feel energized with other people, and introvert is the opposite (Eysenck, 1975).

### RESEARCH QUESTION

By combining the EPQ and MEQ into one survey, I can answer the question: To what extent are morningness and eveningness related to introvertedness vs. extrovertedness?

## Research Methodologies

### STEP 1

randomly generate numbers and apply them to the people who will be taking my survey

### STEP 2

send the random selection of people my survey so that they can take it

### STEP 3

analyze the results of the survey

### SAMPLE DATA

- students from Gunn High School
- 38 total responses
  - 18 females, 19 males, 1 other
  - 14 to 18 years old

## Data and Findings

EPQ Score vs. MEQ Score

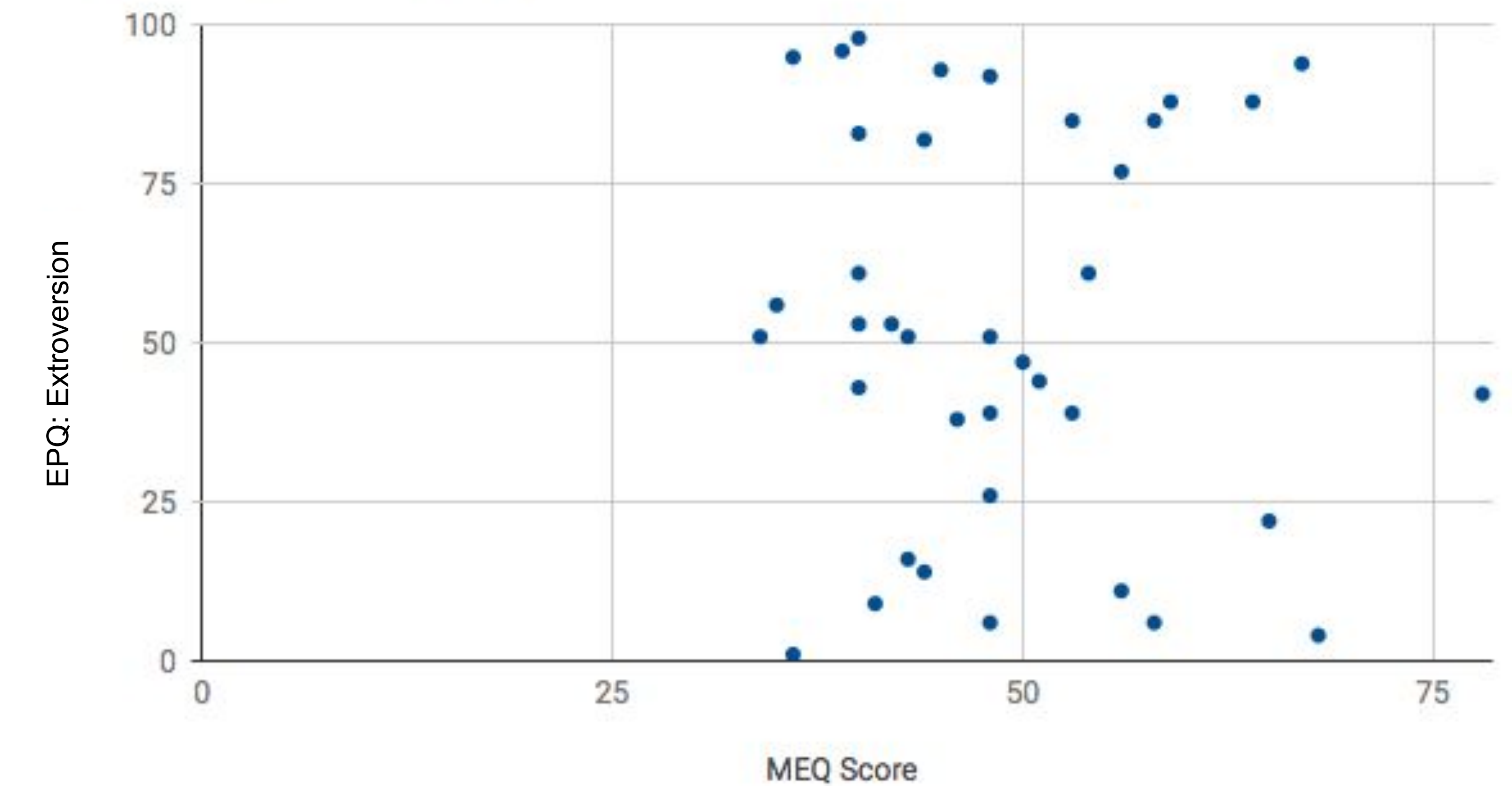


Figure 1. Graph of MEQ score over EPQ extroversion score

MEQ and EPQ Combinations

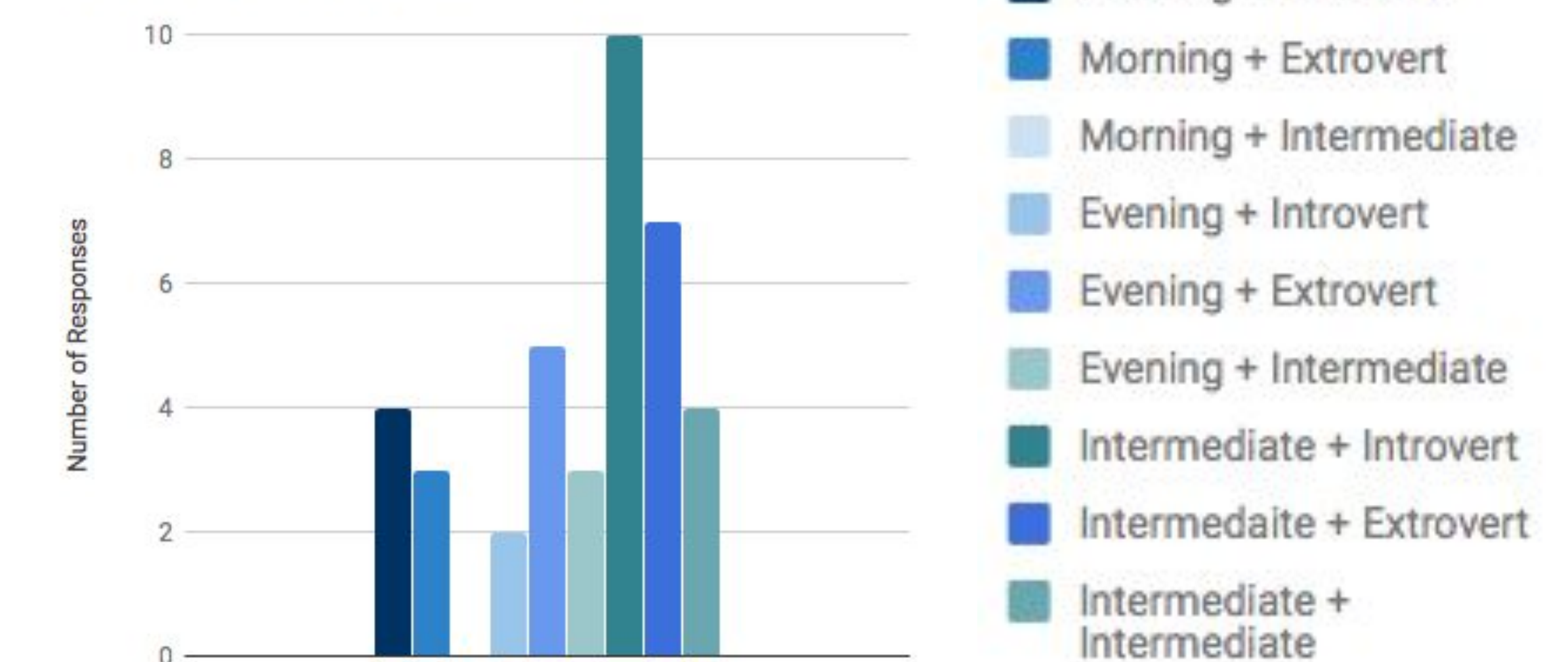


Figure 2. Graph representing combinations of MEQ and EPQ scores

## Conclusions and Analysis

In general, there were many intermediate responses for both MEQ and EPQ, meaning that people were not clearly expressing morningness or eveningness nor introvertedness or extrovertedness. When graphing the data, the line of best fit, as seen in Figure 1, indicates that there is a very weak correlation. Additionally, I did a Pearson Correlation Coefficient test, which measures correlation between two variables, and found the value is -0.0589, further validating this point.

## Implications and Next Steps

My results indicate that there is no correlation between morningness and eveningness and introvertedness and extrovertedness. Currently, there are common misconceptions about morning people being introverts and vice versa. Therefore, the next step would be to educate the general public that there really is no correlation and it is simply a lifestyle choice.

## Acknowledgments and References

**Special thanks to** my mentor, Melanie Tory, and my teacher, Ms. Merchant, for helping make this project possible.

### Works Cited:

- Eysenck, H. J., & Eysenck, S. B. G. (1964). *Manual of the Eysenck Personality Inventory*. London: University of London Press
- Horne, J., & Östberg, O. (1976, June). A Self-Assessment Questionnaire to Determine Morningness-Eveningness in Human Circadian Rhythms. [PDF File] Retrieved November 27, 2018, from <https://cet.org/wp-content/uploads/2017/10/Horne-1976-IJC.pdf?x41674>