Name(s)	Project Number
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Project Title

Does the Golden Ratio (1.618) Predict People's Opinion of Beauty?

Abstract

Objectives/Goals

The goal was to determine if people with facial features that are consistent with the Golden Ratio (phi=1.618) are regarded as more beautiful than people whose facial features have the greatest variance from the Golden Ratio.

Methods/Materials

The materials used were SurveyMonkey, 50 internet photos, Social Media (Facebook, Twitter, Email), Microsoft Excel. An online survey was created using SurveyMonkey, with the 50 random color photos inserted into the survey. The survey was posted on social media. Raw data collected from the survey was analyzed to determine which photos were rated as the most beautiful and the least attractive (1 to 5). Each of the 50 photos were measured with a metric ruler (e.g. top of head to chin, top of head to pupil, pupil to nose tip, etc) to determine 12 separate facial feature measurements. Ratios of the facial feature measurements were entered into Microsoft Excel and compared to the Golden Ratio. The absolute value variance between the Golden Ratio and each facial ratio was calculated, compared to the survey ranking, and graphed.

Results

The survey data and graphs showed that there was no consistent trend between rankings of beauty selections and facial features that had the smallest absolute value variance to the Golden Ratio. The data was further sorted as follows: male survey takers rating males, male survey takers rating females, female survey takers rating males, female survey takers rating females; survey takers ages 8 and 25, 25 and 45, and 45 and 75. Each of the data sets selected above ended up with inconsistent results similar to the larger data set.

Conclusions/Discussion

It was anticipated that survey participants would select beautiful faces based on facial features with the smallest variance to the Golden Ratio. However, the survey takers selected the photo with the smallest absolute variance to the Golden Ratio only 68.75% , with 18 to 24 year olds predicting the most accurately at 26.9%. The lack of a clear connection appears to indicate that survey takers select photos based on personal preferences outside of facial measurements. This could have been one of the errors in the hypothesis, as beauty may be based on personal preferences such as hairstyle, make up, race, or the color of the clothing.

Summary Statement

In my study of "attractiveness", the math behind the Golden Ratio (1.618) and personal preference (ranked by 208 survey takers) approximated the Golden Ratio 68% of the time.

Help Received

My online survey was completed by 208 people; My dad helped find a survey software and helped analyze my raw data; My mom helped me purchase the supplies for the board, proofread the text and and helped assemble my board.