



Yelp Elite Reviewers

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Recap

- What is an Elite Yelp reviewer?
 - Applied and selected group of yelp users that are recognized for writing useful reviews
- Investigating impact of elite Yelp members' reviews on businesses
 - Number of Reviews
 - Average Rating of Reviews
- Investigate correlation of Sentiment of their reviews with ratings
- Focus on Restaurants and restaurant types



Recap: Paired sample t-test

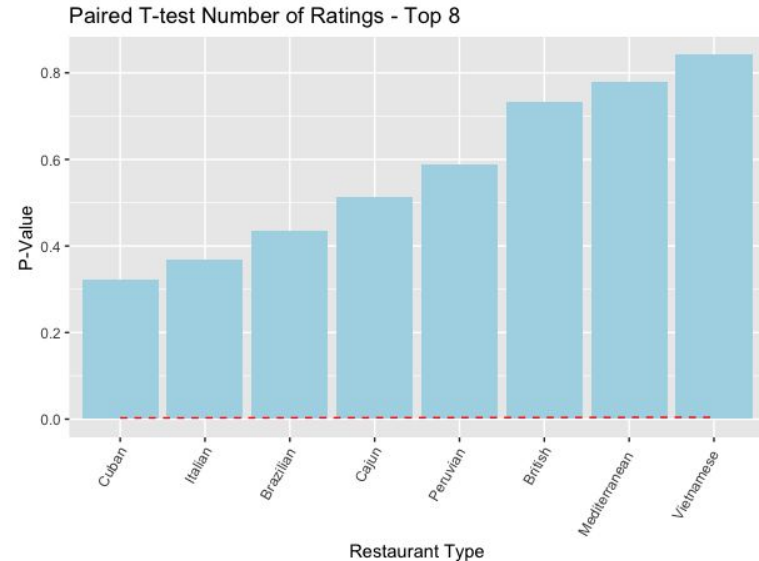
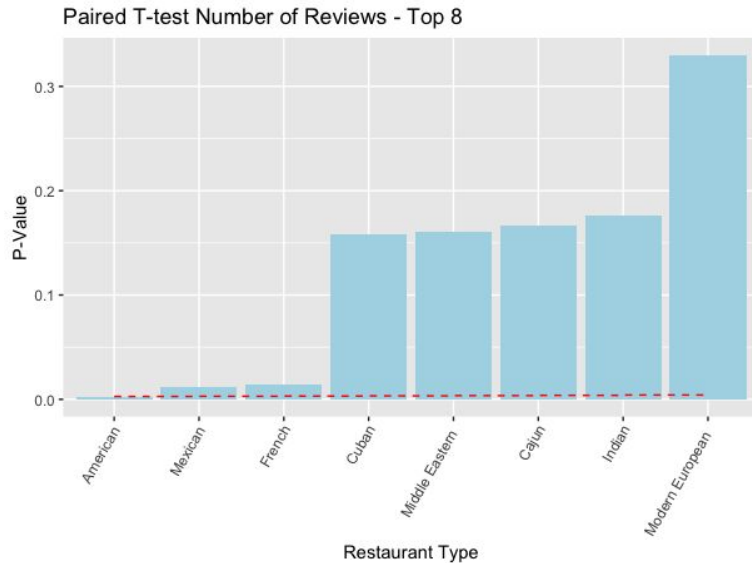
Elite Reviewing the business is the 'treatment' of the restaurants.

Hypothesis 1: The number of reviews a restaurants receives increases in the month following an elite yelper reviewing the restaurants compared to the previous month.

Hypothesis 2: The average rating of reviews for a restaurants increases in the month following an elite yelper reviewing the restaurants compared to the previous month.

Paired sample t-test: Results

- Multiple Hypothesis Correct: Holm-Bonferroni
- Only significant for American Restaurants with increase in Reviews





Difference-in-Difference Hypothesis

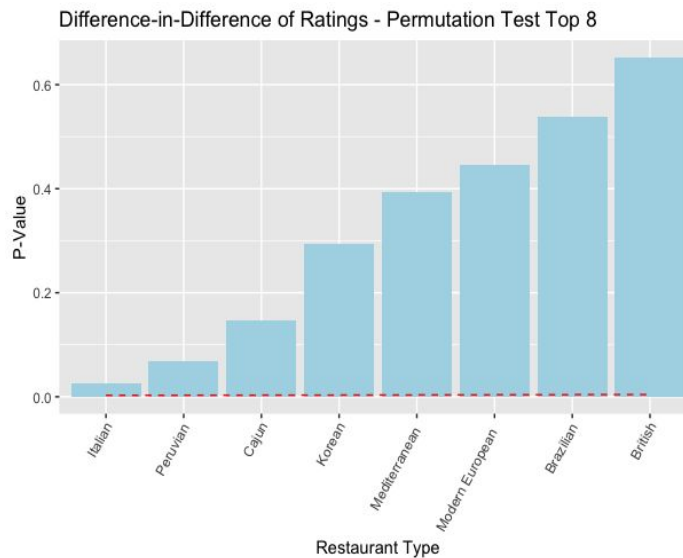
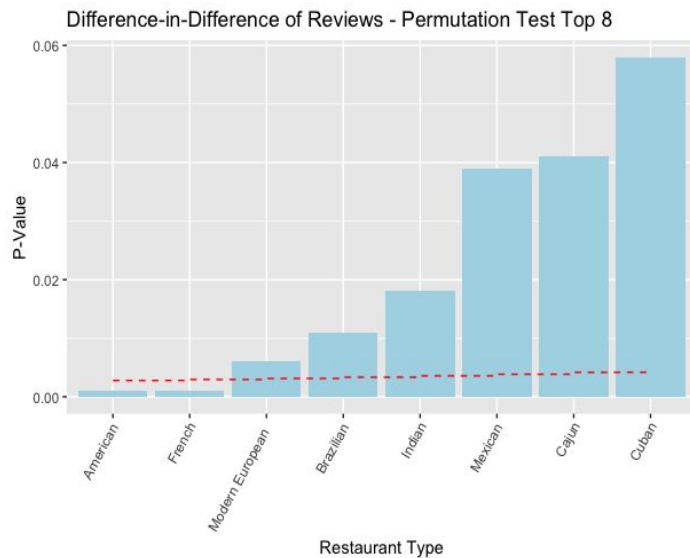
Elite Reviewing the business is the 'treatment' group of the business.

Hypothesis 1: The increase in the number of reviews a business receives in the month following an elite yelper reviewing compared to the preceding month is larger than the increase following a non-elite yelper reviewing the business.

Hypothesis 2: The increase in the average rating of a business in the month following an elite yelper reviewing compared to the preceding month is larger than the increase following a non-elite yelper reviewing the business.

Difference-in-Difference: Permutation Tests Results

- Permutation Test
- American and French restaurants are significant for difference-in-difference of number of reviews



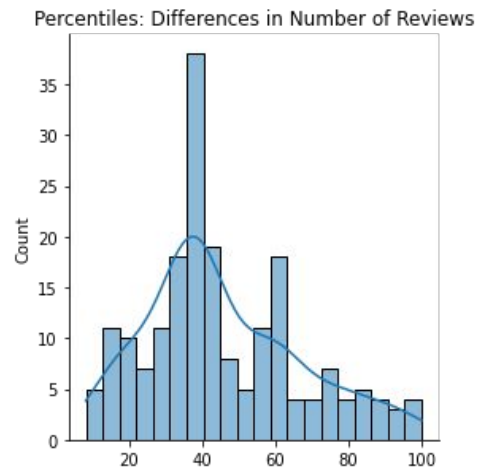
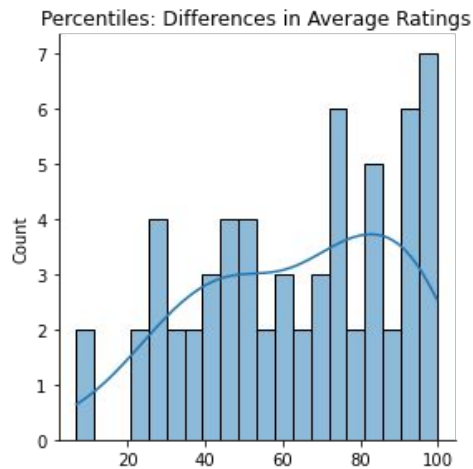
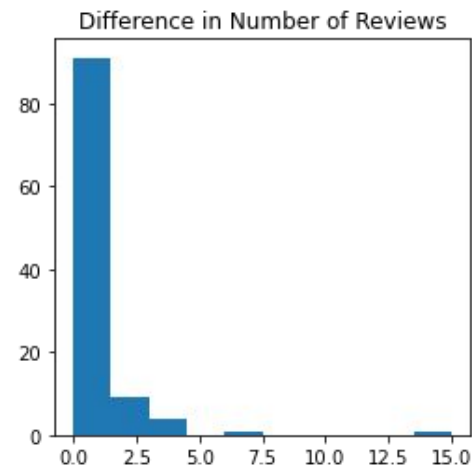
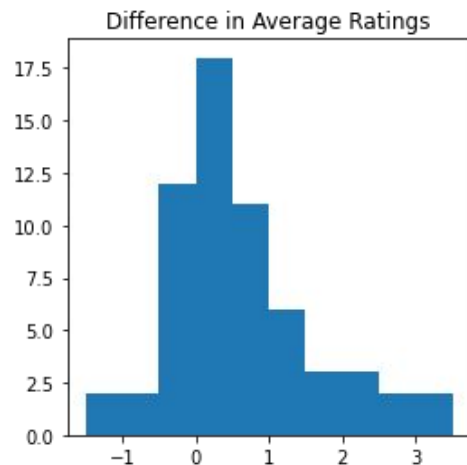


Low Rated & Unreviewed Businesses

- Conducted paired t-test on businesses with lower than a 4-star rating / 0 reviews
- Compared effects of elite reviews and non-elite reviews using percentiles

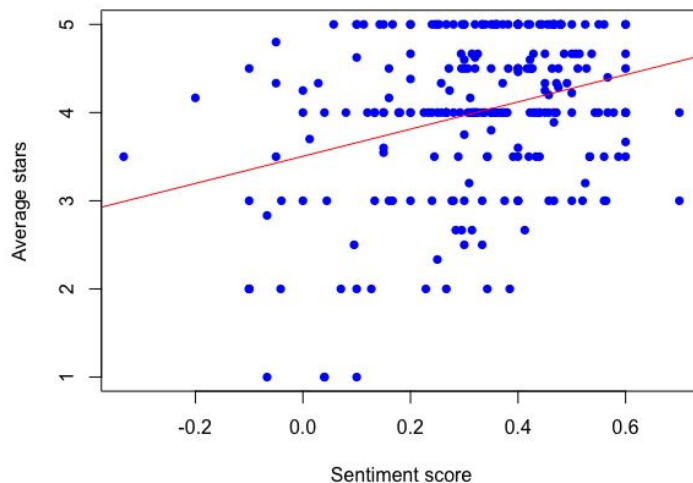


	Average ratings	Number of reviews
Paired t-test	1e-4	6e-5
KS test	<1e-10	> 0.1
1 sample t-test	1e-4	> 0.1



Sentiment Correlation

- Use AFINN lexicon to calculate sentiment scores in $[-1,1]$
- Linear regression of average stars in the following month on sentiment scores
- Coefficient of sentiment scores is 1.54 at 0.001 significant level.





Business Recommendations

- American and French Style Restaurants could see an increase in the number of reviewers after an elite yelper reviews and could benefit from incentivizing from having elite yelp reviewers visit their restaurants
- Restaurants with low rating and unreviewed could see an increase in reviews in the 30-days following and might benefit more from an elite reviewer visiting
- Correlation between yelp elite review sentiment and average rating in the 30 days following

Questions?

