

Humor Styles Questionnaire Study

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CSC570

Final Project

Background

- The Humor Styles Questionnaire (HSQ) was developed by Rod Martin and Patricia Doris (2003) to measure individual differences in styles of humor
- The Humor Styles Questionnaire is a 32-item self-report inventory used to identify how individuals use humor in their lives
- The questionnaire measures two main factors in humor. The first factor measures whether humor is used to enhance the self or enhance one's relationships with others. The second factor measures whether the humor is relatively benevolent or potentially detrimental and destructive. The combination of these factors creates four distinct humor styles: affiliative, self-enhancing, aggressive, and self-defeating.

Sample questions

On a scale of 1 to 5, answer the following questions:

- Q1. I usually don't laugh or joke around much with other people.
- Q2. If I am feeling depressed, I can usually cheer myself up with humor.
- Q3. If someone makes a mistake, I will often tease them about it.
- Q4. I let people laugh at me or make fun at my expense more than I should.
- Q5. I don't have to work very hard at making other people laugh—I seem to be a naturally humorous person.
- Q6. Even when I'm by myself, I'm often amused by the absurdities of life.

Other questions

- Age – entered as text then parsed to an integer
- Gender – chosen from drop down list (1=male, 2=female, 3=other)
- Accuracy – how accurate they thought their answers were on a scale from 0 to 100, answers were entered as text and parsed to an integer. They were instructed to enter a 0 if they did not want to be included in research.

Styles of humor

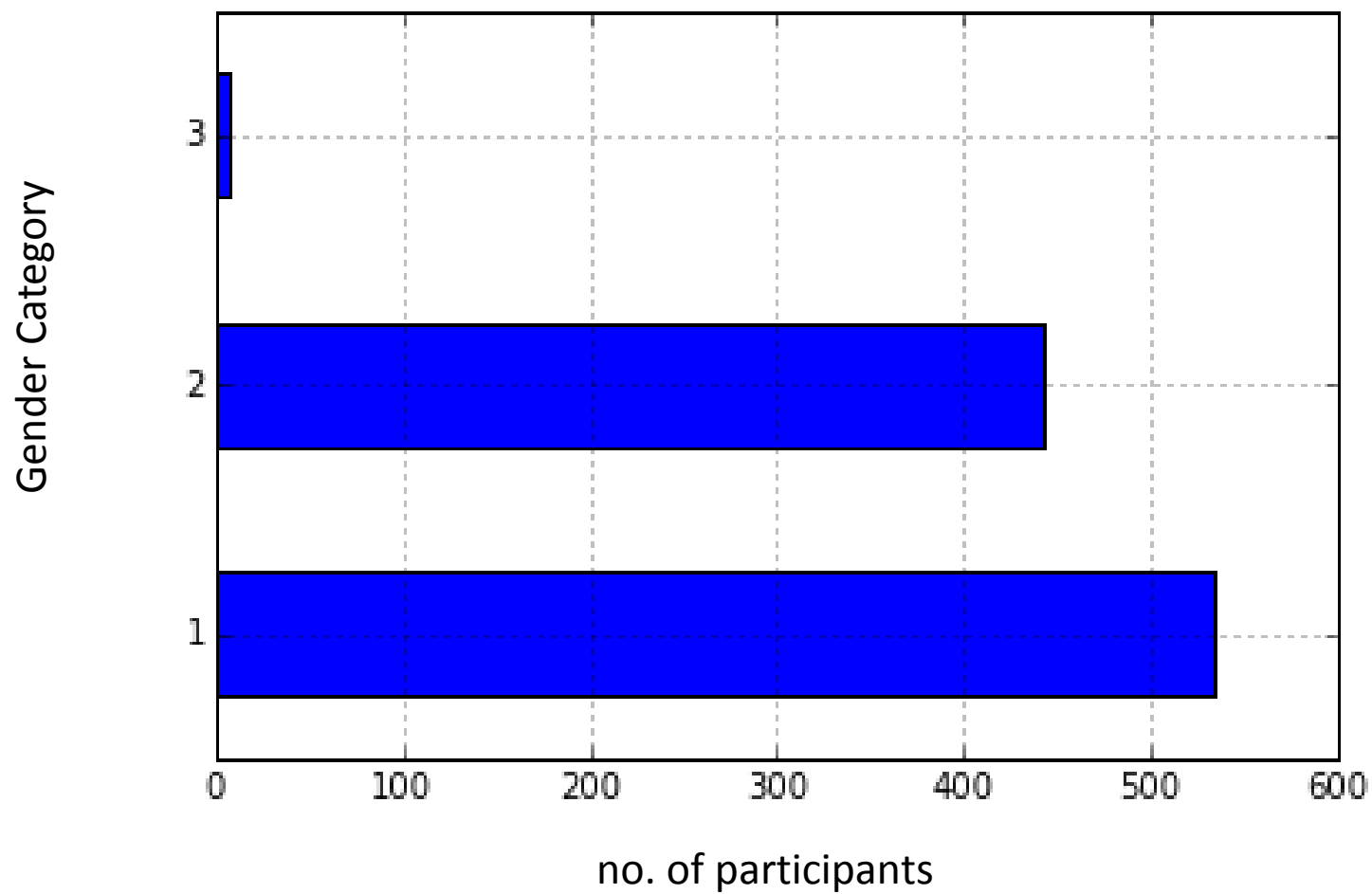
Four styles of humor are calculated after the user completes the questionnaire:

- **Affiliative humor** – a style of humor used to enhance one's relationships with others in a benevolent, positive manner
- **Self-enhancing humor** – a style of humor related to having a good-natured attitude toward life, having the ability to laugh at yourself, your circumstances and the idiosyncrasies of life in constructive, non-detrimental manner.
- **Aggressive humor** – a style of humor that is potentially detrimental towards others. This type of humor is characterized by the use of sarcasm, teasing, criticism, ridicule, etc at the expense of others
- **Self-defeating humor** – a style of humor with the use of potentially detrimental humor towards the self in order to gain approval from others

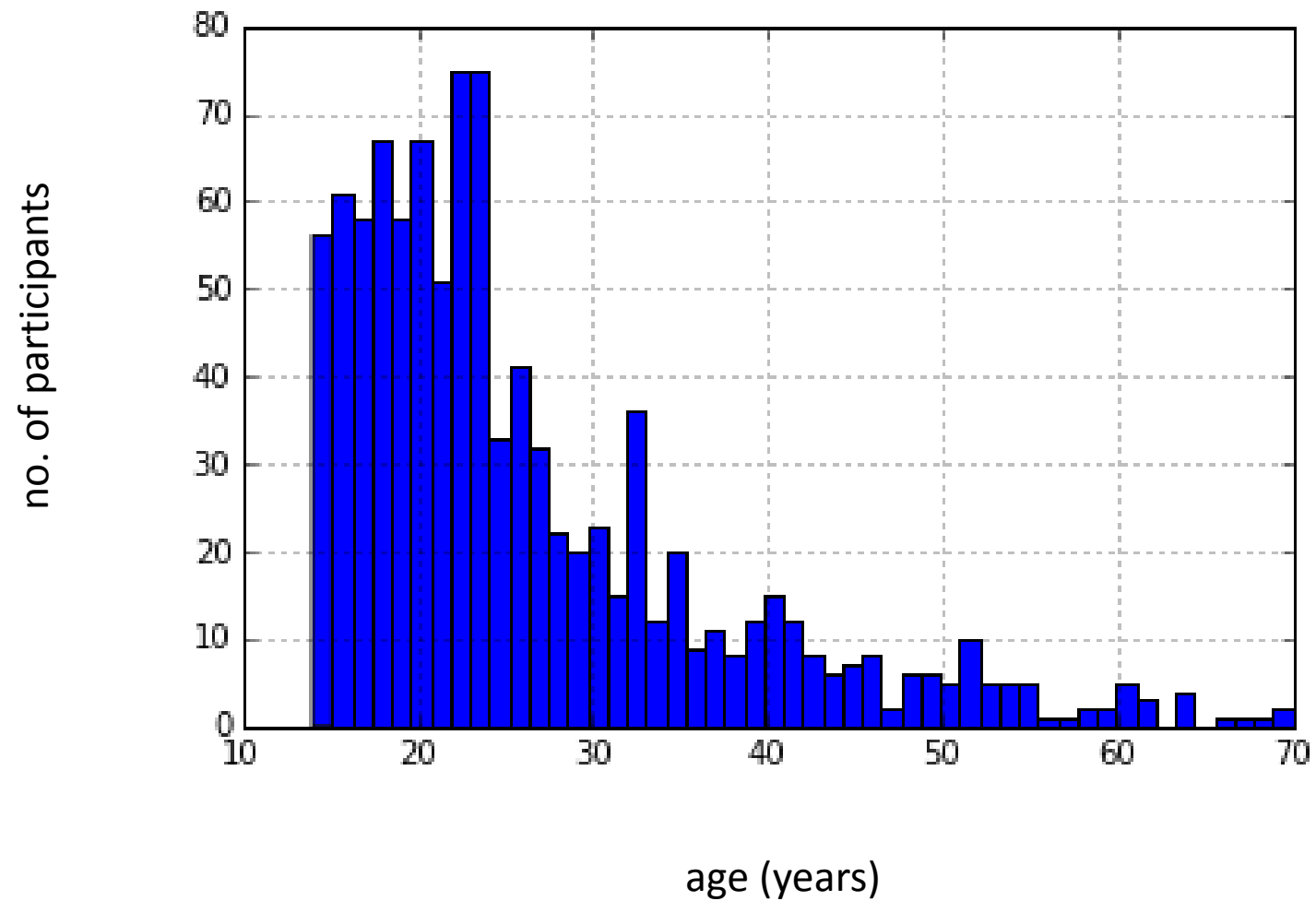
Data Analysis overview

- Raw data was obtained from http://personality-testing.info/_rawdata/
- There were 1071 completed questionnaires in the study
- Out of those, 985 were used in this analysis as some of them contain invalid data
- The male vs female participation was roughly 55% to 45%
- The age group ranged from 14 to 70 years old
- The self rated accuracy ranged from 7 to 100

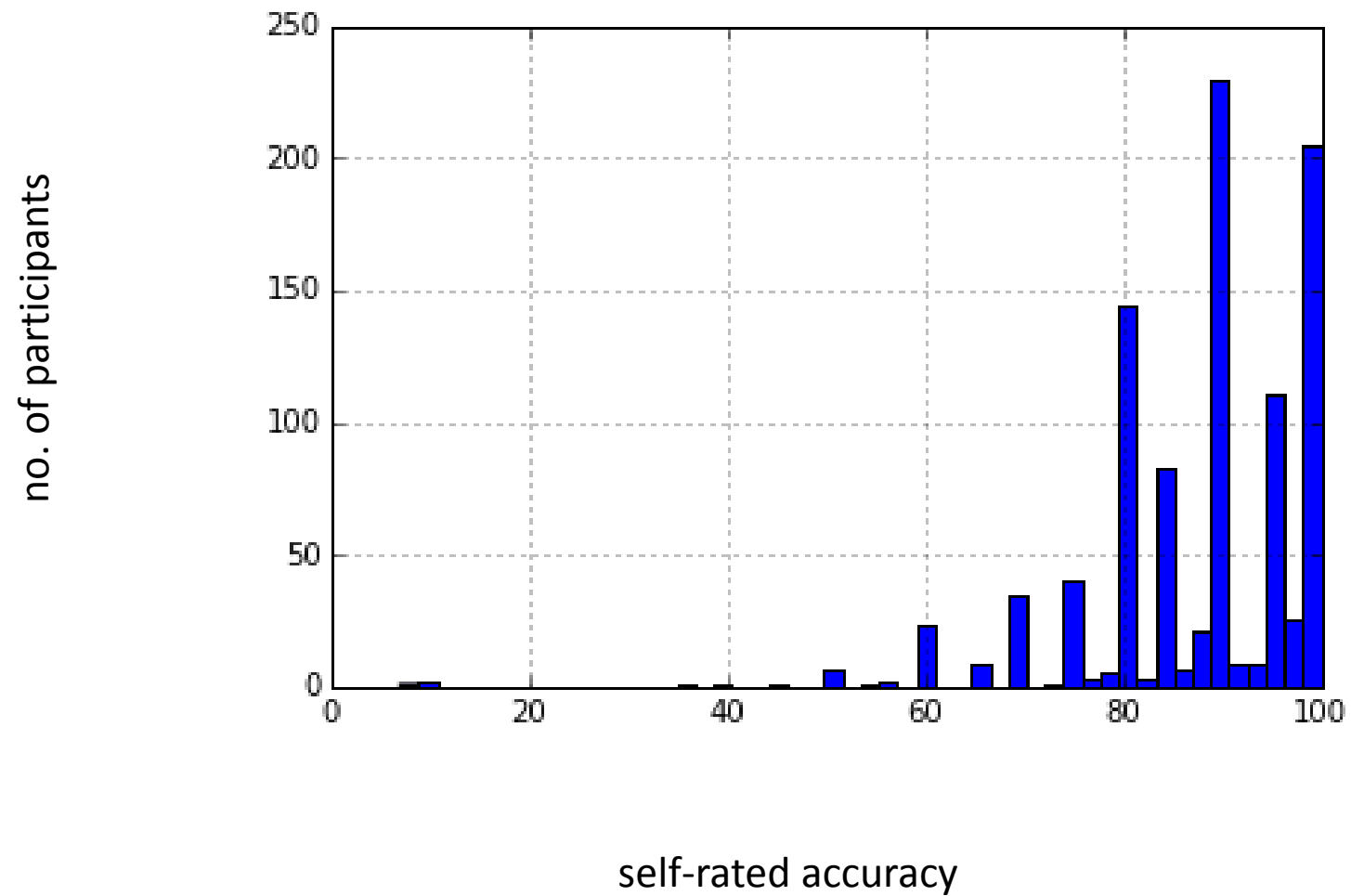
Gender distribution (1=male, 2=female, 3=other)



Age distribution



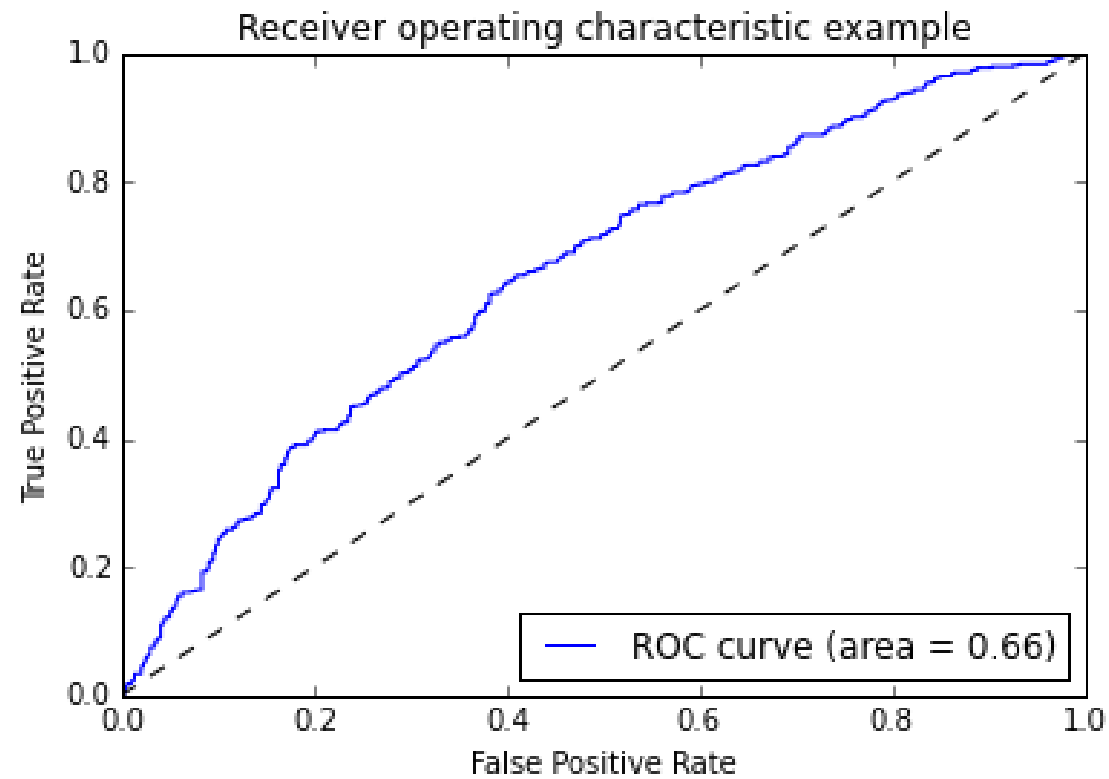
Self-rated accuracy distribution



Prediction on gender

- Analysis model was implemented using Random Forest Regressor
- The model was fine tuned to achieve higher ROC
- The ROC has a score of 0.66, which seems relatively low.
- Prediction on gender based on the questions answer is not very accurate (accuracy score = 0.64)
- GridSearch was also used with no improvement in the ROC

Prediction on gender - ROC



Prediction on gender – Precision/Recall

	precision	recall	f1-score	support
0	0.63	0.53	0.58	90
1	0.65	0.74	0.69	106
avg / total	0.64	0.64	0.64	196

Confusion Matrix

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[[48 42]
 [28 78]]
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Linear Regression

- Attempted to predict self rated accuracy by linear regression using age and the four humor styles (affiliative, self enhancing, aggressive, self defeating) which was calculated by the study
- The linear regression score was 0.001139, which was very low
- It appears that self rated accuracy cannot be predicted based on these features
- Also attempted to predict age based on the positive humor styles (affiliative and self enhancing) which also yielded a low linear regression score

Summary

- While the model implemented had a ROC score of 0.66, it is still higher than the male vs female percentage (55% vs 45%). It appears that there is some correlation between humor styles and gender

Reference(s)

- https://www.hnu.edu/ishs/ISHS%20Test%20Bank/TestCat_HSQ.htm
- http://en.wikipedia.org/wiki/Humor_styles#cite_note-Martin-2