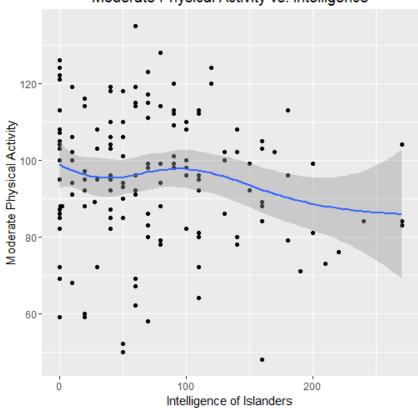
#### **STATS 67 HW#9**

Study 1: Is moderate physical activity related to intelligence?

- 1. Fitting Linear Model
- 2.  $H_0$ :  $\beta_1 = 0$  $H_A$ :  $\beta_1 != 0$
- 3.

# Moderate Physical Activity vs. Intelligence



- 4. Conditions have not been met, points are not evenly scattered over line.
- 5. We fail to reject the Null Hypothesis

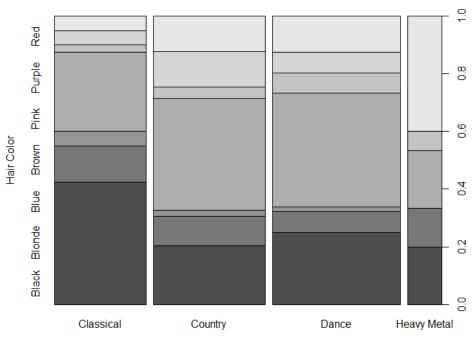
p-value: 0.05989

Conclusion: We have sufficient evidence in favor of islanders Moderate Physical Activity related to islander intelligence.

# Study 2: Is music preference related to hair color?

- 1. Chi Squared Test
- 2. H<sub>0</sub>: Music preference IS NOT related to hair color. H<sub>A</sub>: Music preference IS related to hair color.
- 3.

#### Music Preference vs. Hair Color



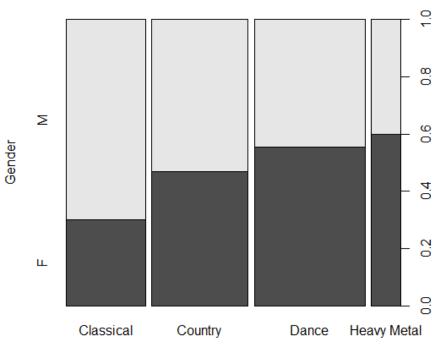
- Music Preference
- 4. Conditions are not met: All Cells in Table have more than 5 Observations. There are only 4 observations for people with blue
- 5. CONDITIONS ARE NOT MET.

### Study 3: Is music preference related to gender?

- 1. Chi Squared
- H<sub>0</sub>: Music Preference IS NOT related to Gender.
  H<sub>A</sub>: Music Preference IS related to Gender.

3.

## Music Preference vs. Gender



Music Preference

- 4. Conditions have been met; each cell in table has more than 5 observations.
- 5. We Fail to Reject the Null Hypothesis

p-value: 0.06492

Conclusion: We do not have sufficient evidence to show that Music Preference and Gender are related.