Data Visualisation – Assignment 2

Attachment Style and Uses of Music

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Question

To what extent is there a relationship between attachment style and uses of music?

Motivation

- "Music is a ubiquitous aspect of all human cultures and has been associated with broad psychological functions, in particular emotion regulation and coping" (Chamorro-Premuzic & Furnham, 2007; p. 175)
- "Attachment style is an important construct for researchers and clinicians interested in individual differences in emotion regulation (Mikulincer & Shaver, 2010; p. 218)

Attachment Style (briefly..)

- Suggests that early experience of caregiver relationships has a lasting effect on abilities to cope with emotion.
- The quality of these experiences – how much we think we can rely on others for security – subconsciously shapes our coping strategy ("attachment style").
- Two dimensions of attachment style: hyper-activating/anxious; deactivating/avoidant.
- If listening to music is a coping strategy, is there any link to attachment style?

Population

- In theory, anyone. No attempt to restrict participation to a known population e.g. Goldsmiths students.
- In practice, likely to be other Data Viz students, plus (Facebook) friends and family.
- Sample unlikely to generalise to target population, potential sources of bias include
  - Bias against people who do not listen to music.
  - Bias against people not in relationships (by nature of attachment questions).
  - Online study; only people with internet access could have responded.
  - Bias towards people who respond to online questionnaires.

Research Method

Questionnaires

- Two existing measures:
  - Adult Attachment Questionnaire (AAQ) (Simpson, Rholes & Phillips, 1996)
  - Uses of Music Inventory (UMI) (Chamorro-Premuzic & Furnham, 2007)
- Also some basic demographics:
  - Age (free numeric text)
  - Gender (select from "Male", "Female", "Not Listed")
  - Country where you grew up (select from list of 257 countries, scraped from www.listofcountriesoftheworld.com)

Adult Attachment Questionnaire (AAQ)

- Self report
- 17 Questions
- 1 to 7 point Likert scale
- 2 constructs being measured:
  - Attachment avoidance
  - Attachment anxiety
- Q1-3 and 5-9 = avoidance
- Q4 & 10-17 = anxiety
- Q1, 3, 4, 12, 14, 16, and 17 reverse keyed (R)
- Mean response from each construct gives score on dimension between 1 and 7

e.g. Avoidance:

- *I'm not very comfortable having to depend on other people.*
- *I don't like people getting too close to me.*
- *I'm comfortable having others depend on me. (R)*

e.g. Anxiety:

- *I often worry that my partner(s) don't really love me.*
- *I usually want more closeness and intimacy than others do.*
- *The thought of being left by others rarely enters my mind. (R)*

Uses of Music Inventory (UMI)

- Self report
- 15 Questions
- 1 to 5 point Likert scale
- 3 constructs being measured:
  - Emotional use of music
  - Cognitive/Intellectual use of music
  - Background use of music
- 5 questions for each construct
- 1 question reverse scored for each construct
- Mean response for each construct gives score on dimension between 1 and 5

e.g. Emotional:

- *Listening to music really affects my mood.*

e.g. Cognitive/Intellectual:

- *I often enjoy analysing complex musical compositions.*

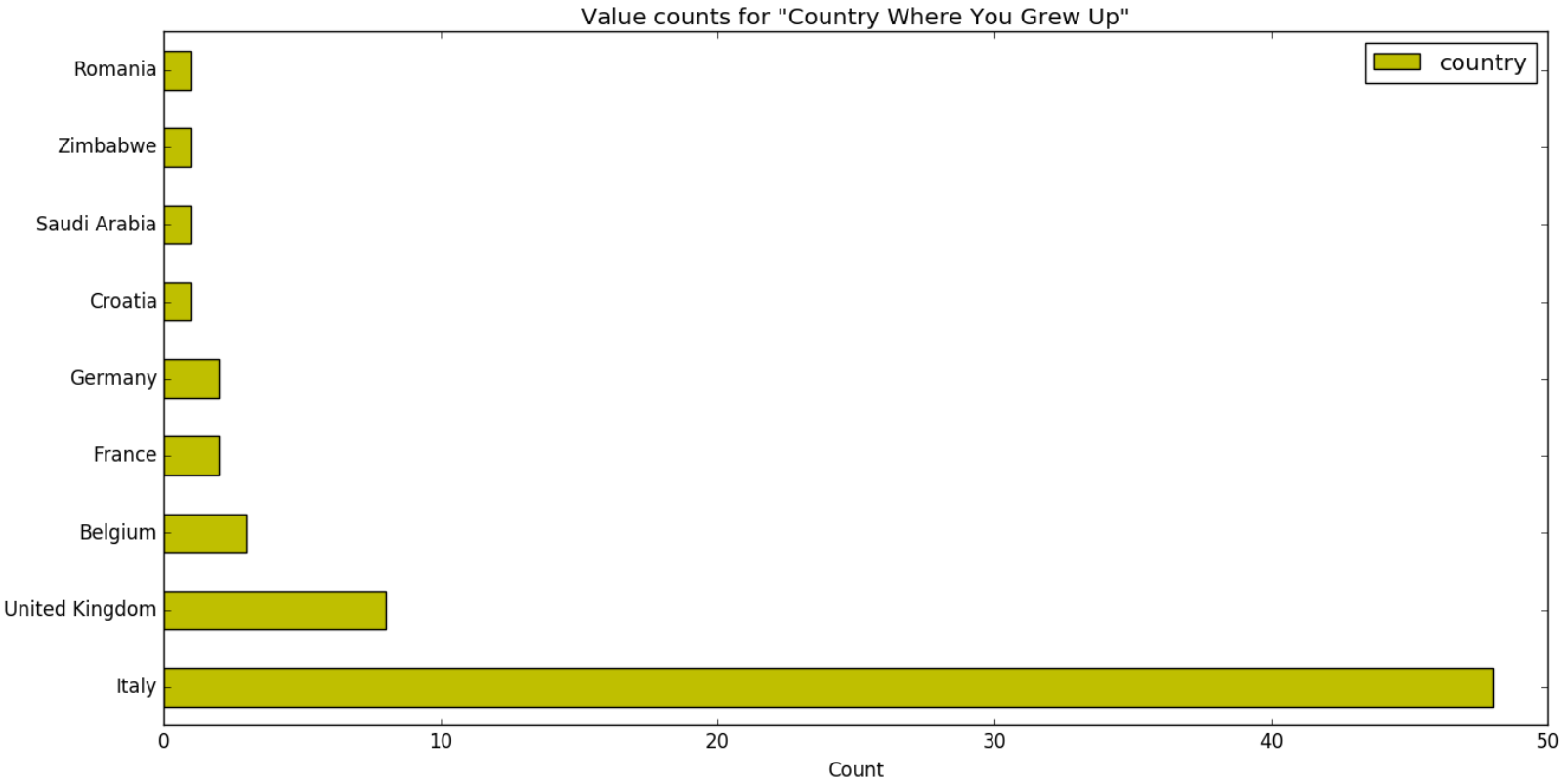
e.g. Background

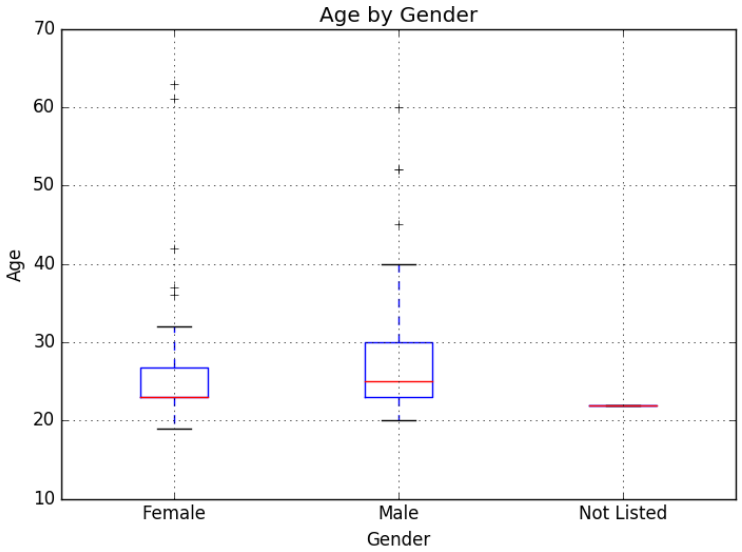
- *If I don't listen to music while I'm doing something, I often get bored.*

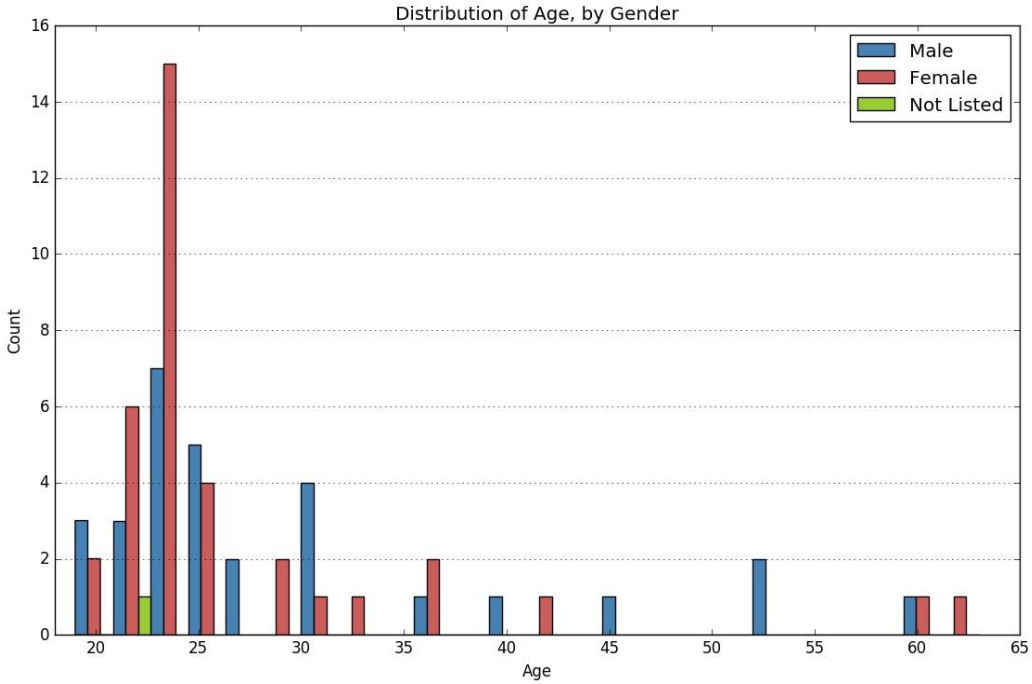
Results

Participants

- 68 respondents
- 30 Male, 36 Female, 2 Not Listed
- 1 participant excluded (age of 666; gender of 'Not Listed')
- Remaining aged between 19 and 63 years (X=28.1, SD=10.06)
  - Similar male/female mean and SD, however much higher peak for Female at mode (23 years).
- Large Italian contingent (48 responses - 20 Male, 27 Female, 1 Not Listed).
  - Age between 19 and 61 (X=25.5, SD=8.06)
  - Age more normally distributed < 35 years

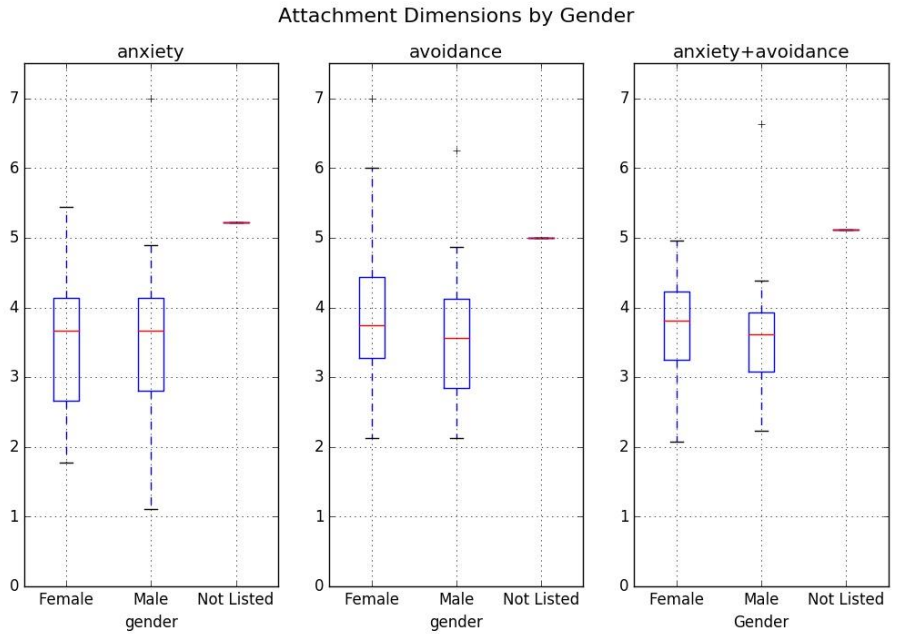

Value counts for "Country Where You Grew Up"
country
Romania
Zimbabwe
Saudi Arabia
Croatia
Germany
France
Belgium
United Kingdom
Italy
0
10
20
30
40
50
Count

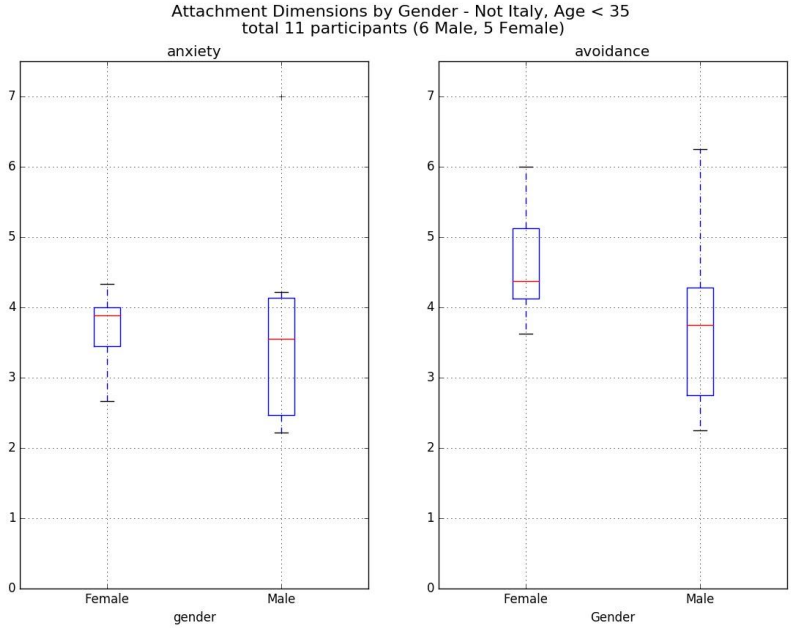

Age by Gender
70
60
50
40
30
20
10
Age
Female
Male
Not Listed
Gender

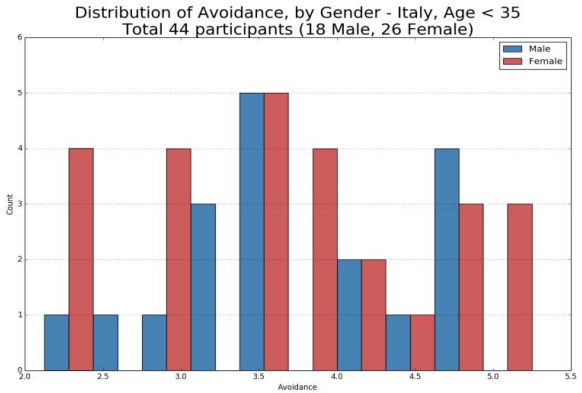

Distribution of Age, by Gender
Male
Female
Not Listed
16
14
12
10
8
6
4
2
0
Count
20
25
30
35
40
45
50
55
60
65
Age

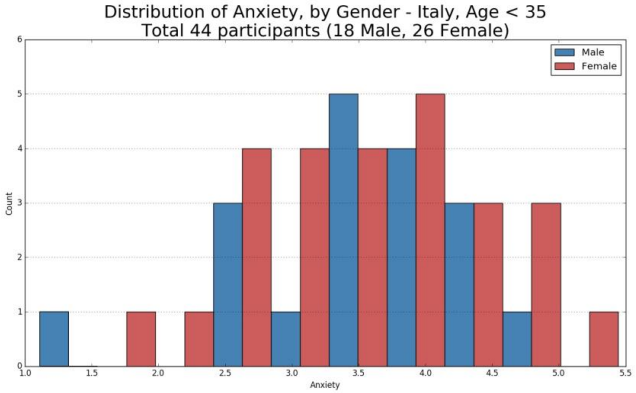
Adult Attachment Questionnaire

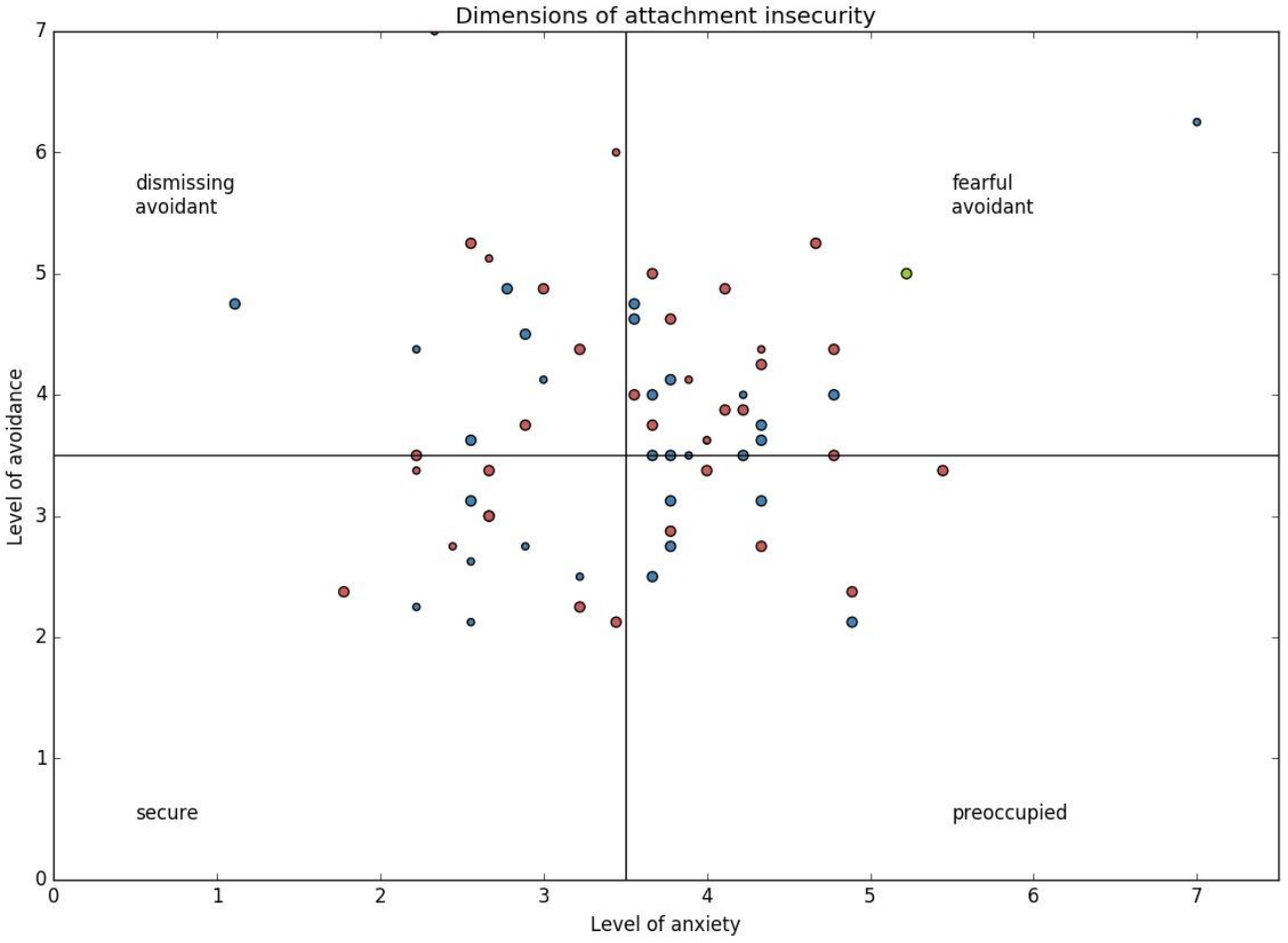
- Anxiety
  - Mean score 3.6 out of 7 (SD=0.99)
    - Male (X=3.5, SD=1.08)
    - Female (X=3.5, SD=0.89)
    - Not Listed (X=5.2, SD=0.00)
- Avoidance:
  - Mean score 3.8 out of 7 (SD=1.03)
    - Male (X=3.6, SD=0.96)
    - Female (X=3.9, SD=1.08)
    - Not Listed (X=5.0, SD=0.00)
- Some suggestion of group difference (by gender) in non-Italian participants aged < 35, but sample size (N=11) too small to trust.


Attachment Dimensions by Gender
anxiety
avoidance
anxiety+avoidance
Female
Male
Not Listed
gender
Gender


Attachment Dimensions by Gender - Not Italy, Age < 35
total 11 participants (6 Male, 5 Female)
anxiety
avoidance
Female
Male
gender
Gender


Distribution of Avoidance, by Gender - Italy, Age < 35
Total 44 participants (18 Male, 26 Female)
Male
Female
Count
Avoidance

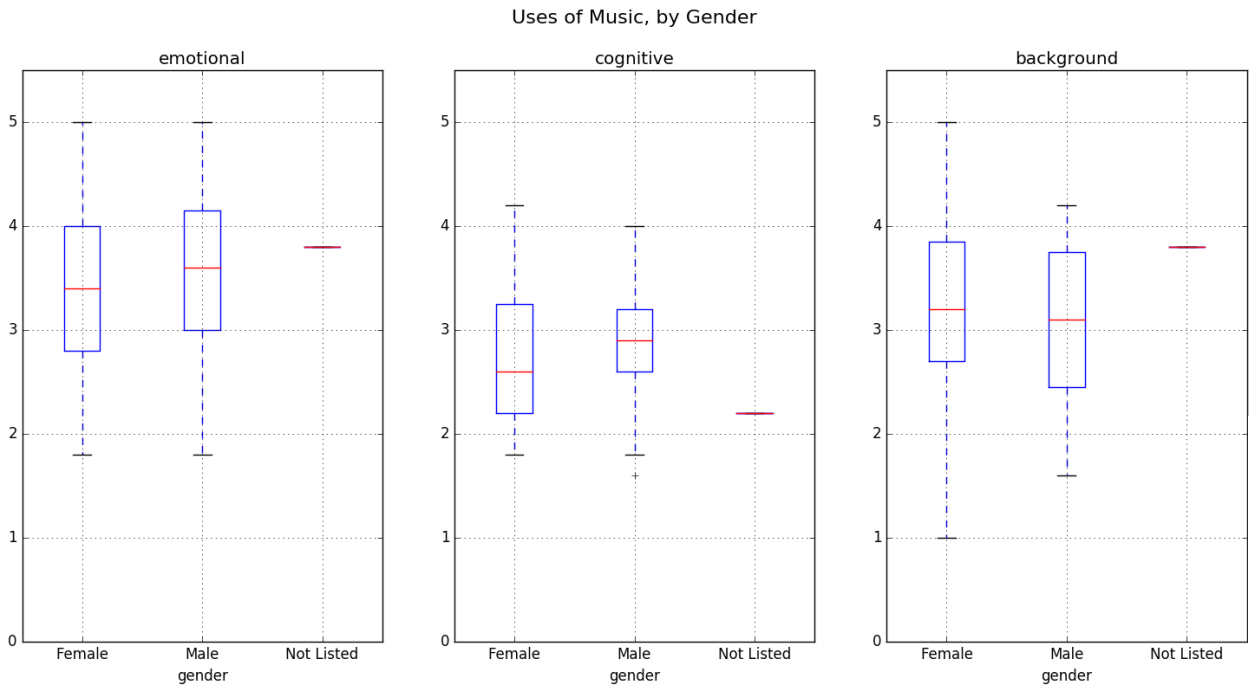

Distribution of Anxiety, by Gender - Italy, Age < 35
Total 44 participants (18 Male, 26 Female)
Male
Female
Count
Anxiety

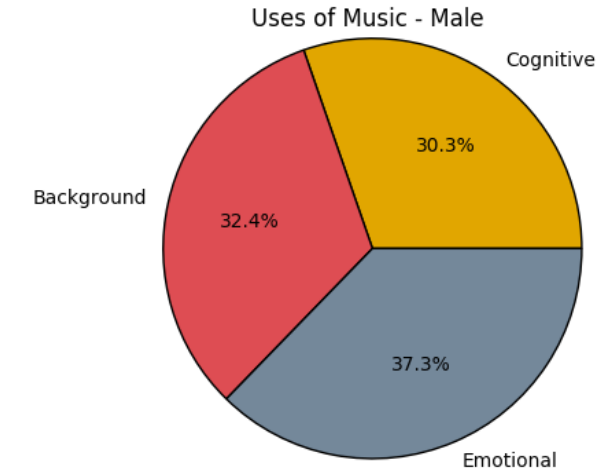


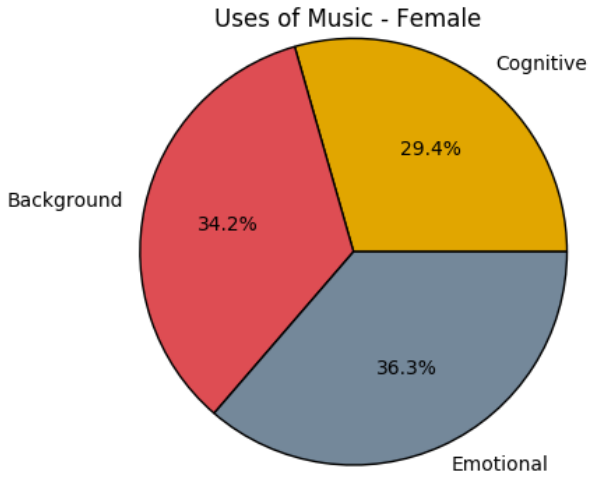
quadrant names suggested by Bartholomew (1990)

Uses of Music Inventory

- Participants reported using music for emotional purposes the most, followed by background and then cognitive.
- Emotional:
  - Male usage proportionally higher than female.
  - Male median score also slightly higher.
  - Similar range, otherwise.
- Cognitive:
  - Lowest median scores for both male and female respondents.
  - Also lowest proportional usage compared to other two categories.
  - Inter-quartile range greater for female.
- Background:
  - Female usage proportionally higher than male.
  - Mean female score higher than male.
  - Range of female scores greater than male.


Uses of Music, by Gender
emotional
cognitive
background
0
1
2
3
4
5
Female
Male
Not Listed
gender

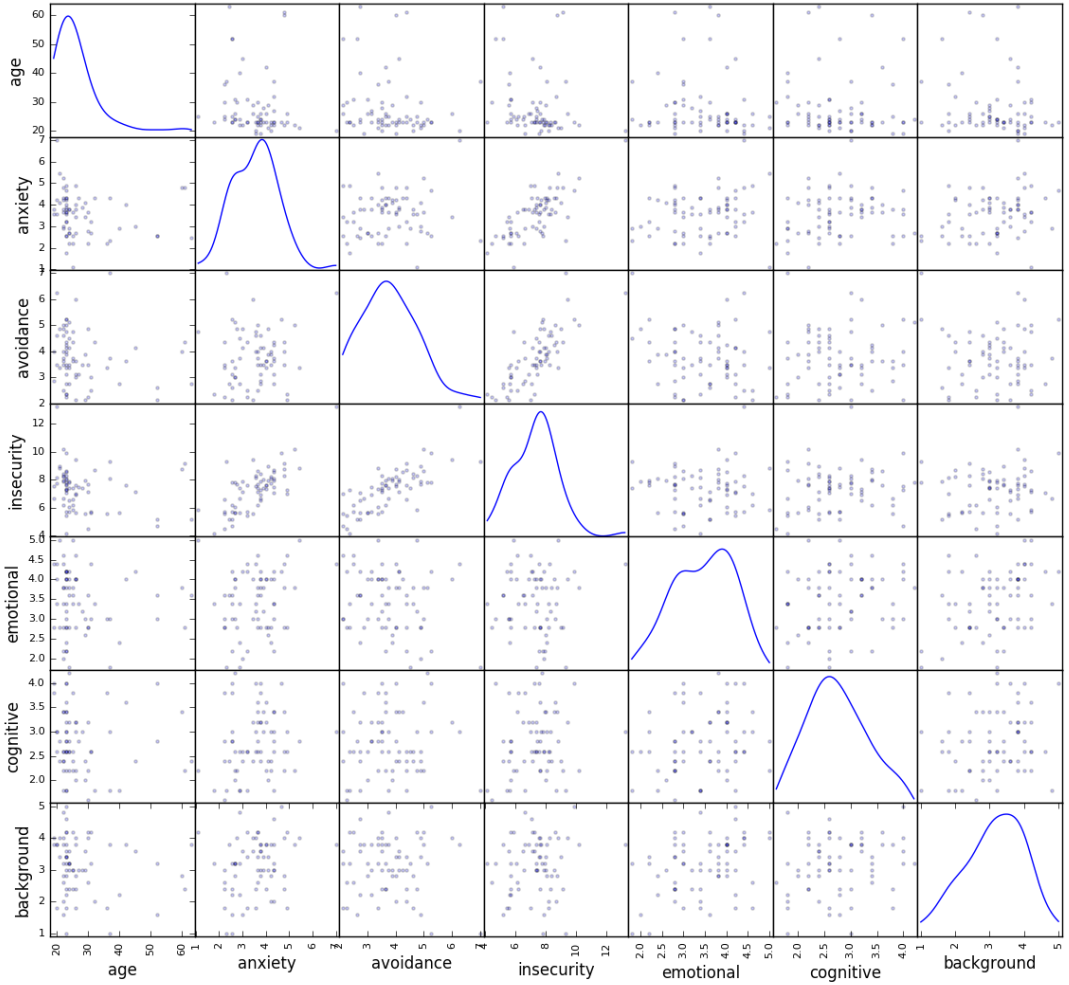

Uses of Music - Male
Cognitive
30.3%
Background
32.4%
37.3%
Emotional

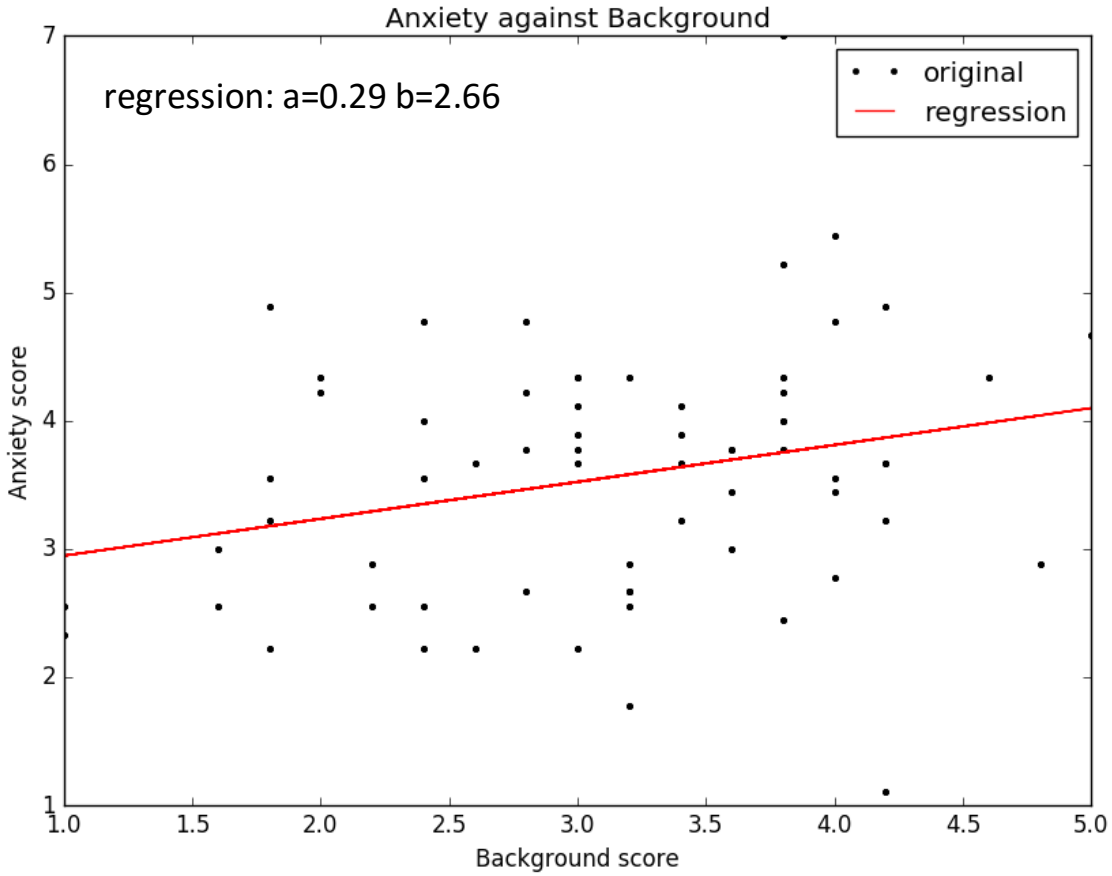

Uses of Music - Female
Cognitive
29.4%
Background
34.2%
36.3%
Emotional

Correlations

- No obvious relationships detected between AAQ and UOM constructs (from eyeballing data)
- However linear regression showed weak correlation between level of attachment anxiety and background use of music ($r=0.26$, $p = 0.034$)
- This increases if sample restricted to Female, Italian, and < 35 years ($N=26$, $r=0.49$, $p = 0.010$).

Scatter matrix for age, attachment, and uses of music




Anxiety against Background
regression: a=0.29 b=2.66
original
regression
Anxiety score
Background score
1
2
3
4
5
6
7
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0

Conclusion

- Some support for relationship between AAQ and UOM, but no strong correlations
- Possible interpretations:
  - There is no relationship
  - We did not have enough participants
  - Our sample was not representative
  - AAQ is not a suitable measure
  - UOM is not a suitable measure
  - Self report measures, generally, are not suitable

References

- Bartholomew, K. (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships, 7*, 147–178.
- Chamorro-Premuzic, T, and Furnham, A (2007). "Personality and music: Can traits explain how people use music in everyday life?" *British Journal of Psychology 98.2,* 175-185.
- Mikulincer, M., & Shaver, P. R. (2010). *Attachment in adulthood: Structure, dynamics, and change*. New York: Guilford Press.
- Simpson, J. A., Rholes, S. W., & Phillips, D. (1996). Conflict in close relationships: An attachment perspective. *Journal of Personality and Social Psychology, 71,* 899–914.