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..)

- Experience of relationships, especially in early development, has a lasting effect on strategies for regulating affect.
- Attachment theory proposes an innate drive to seek security from caregivers in stressful situations. This is literally true in early years, becoming symbolic (internalised) as we grow up.
- Quality of attachment experiences – how much we think we can rely on others for security – shapes coping strategies (hyper-activating / anxious; deactivating / avoidant).
- If music is a coping strategy, is this related 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:

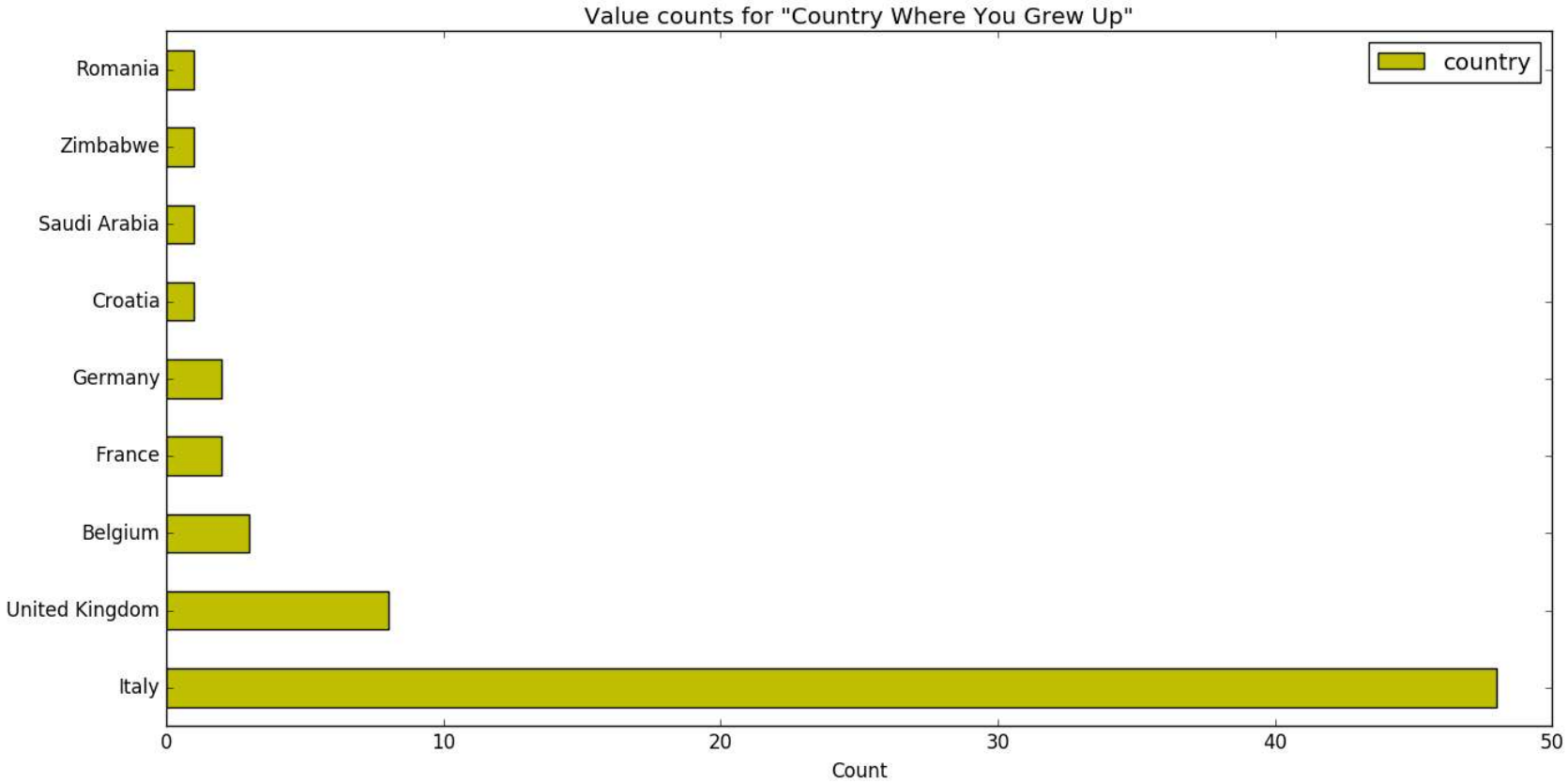
- *I often enjoy analysing complex musical compositions.*

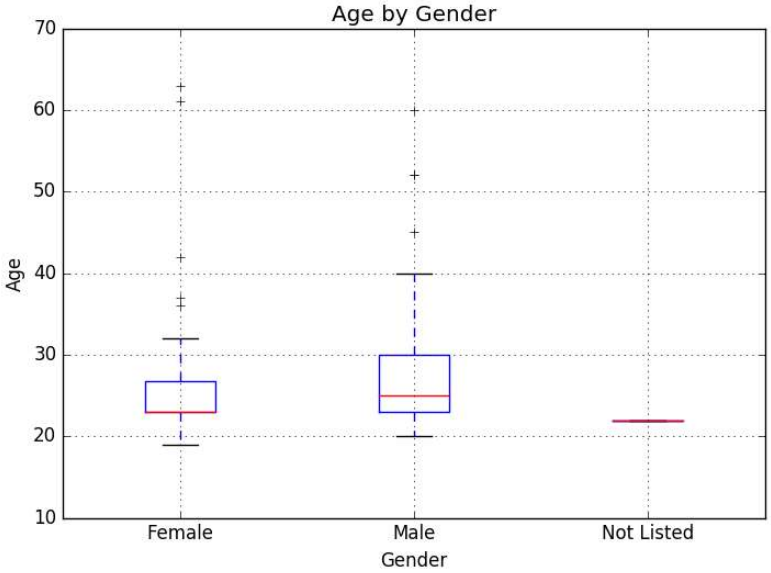
e.g. Background

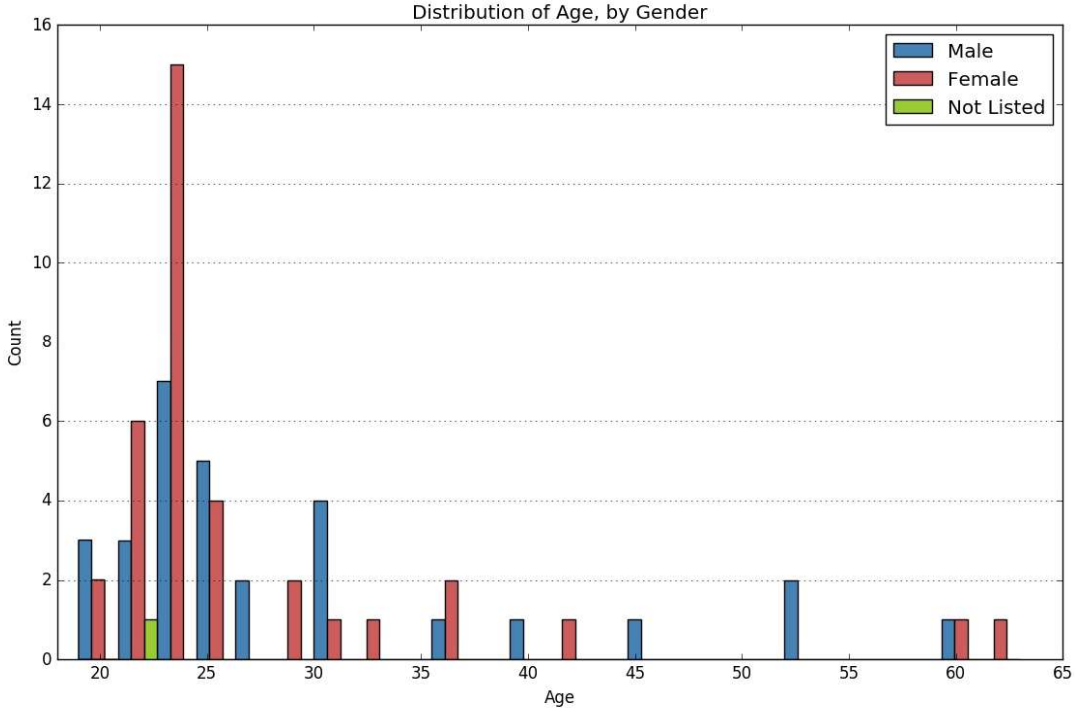
- *If I don't listen to music while I'm doing something, I often get bored.*

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

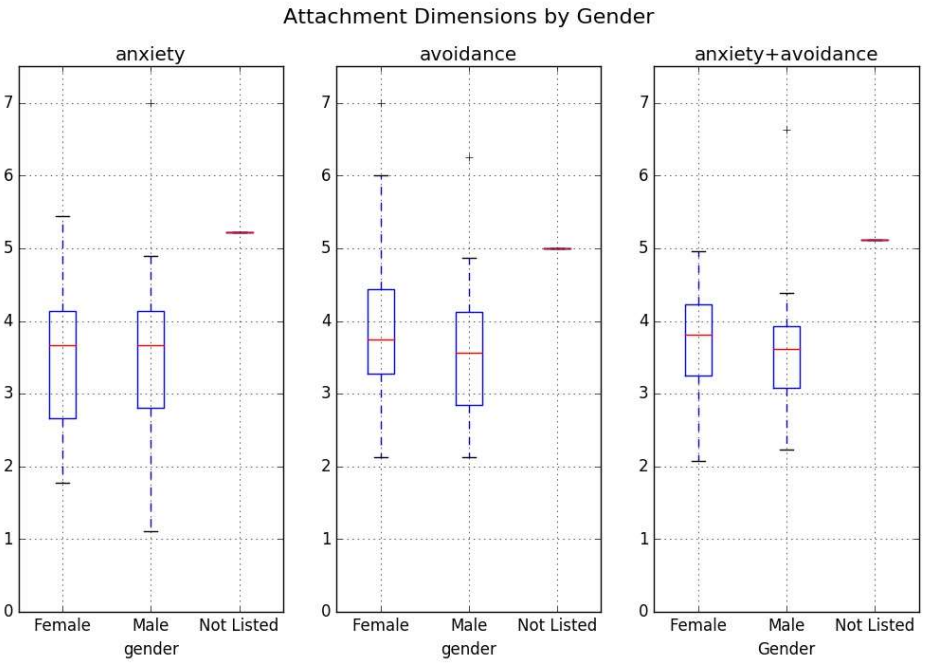

Value counts for "Country Where You Grew Up"
country
Romania
Zimbabwe
Saudi Arabia
Croatia
Germany
France
Belgium
United Kingdom
Italy
0
10
20
30
40
50
Count

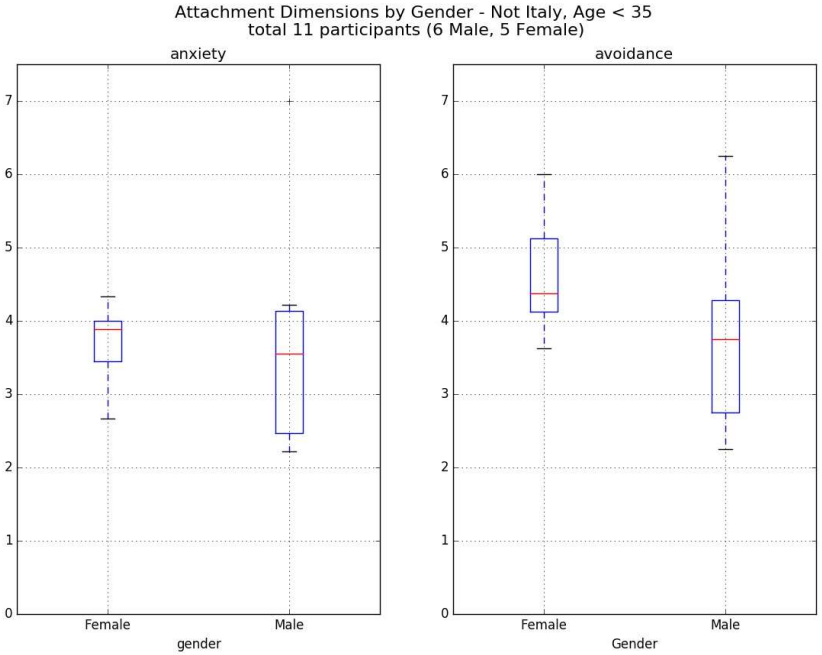

Age by Gender
Age
Gender
Female
Male
Not Listed
70
60
50
40
30
20
10

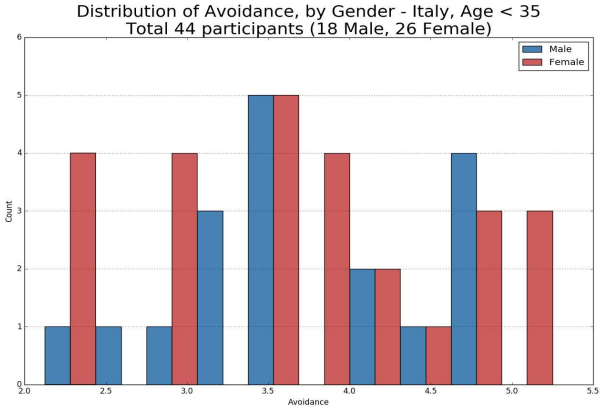

Distribution of Age, by Gender
Male
Female
Not Listed
Count
Age
16
14
12
10
8
6
4
2
0
20
25
30
35
40
45
50
55
60
65

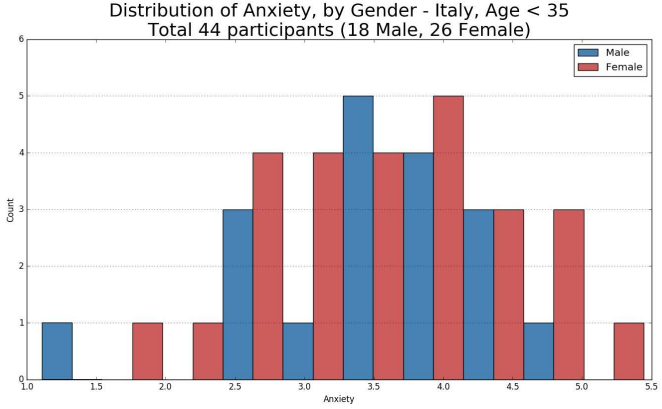
Results: Adult Attachment Questionnaire

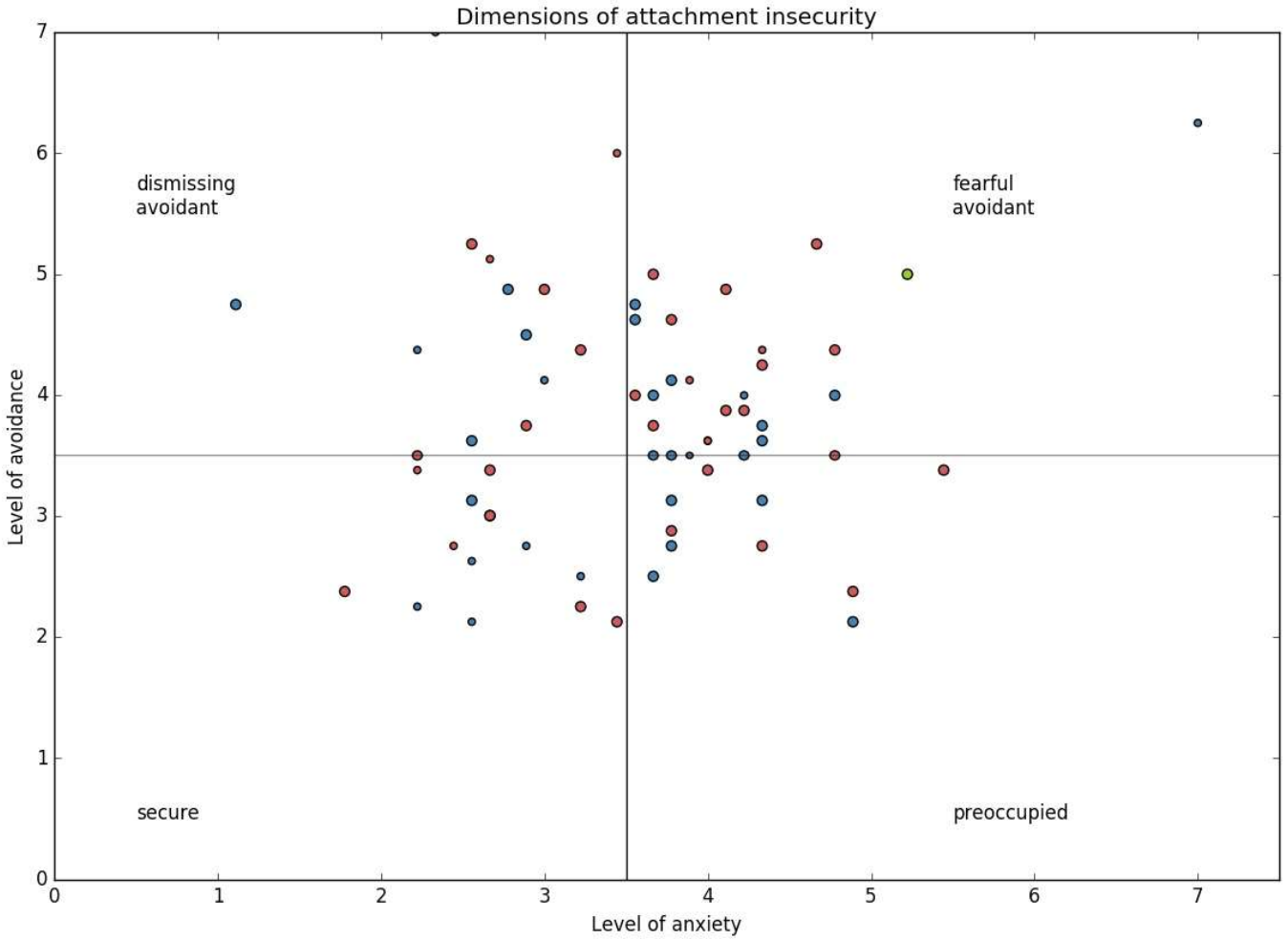
- Anxiety
  - Mean score 3.6 out of 7 (SD=0.99)
    - Male (X=3.5, SD=1.08)
    - Female (X=3.5, SD=0.89)
    - Not Listed (X=5.2, SD=0.00)
- Avoidance:
  - Mean score 3.8 out of 7 (SD=1.03)
    - Male (X=3.6, SD=0.96)
    - Female (X=3.9, SD=1.08)
    - Not Listed (X=5.0, SD=0.00)
- Some suggestion 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
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

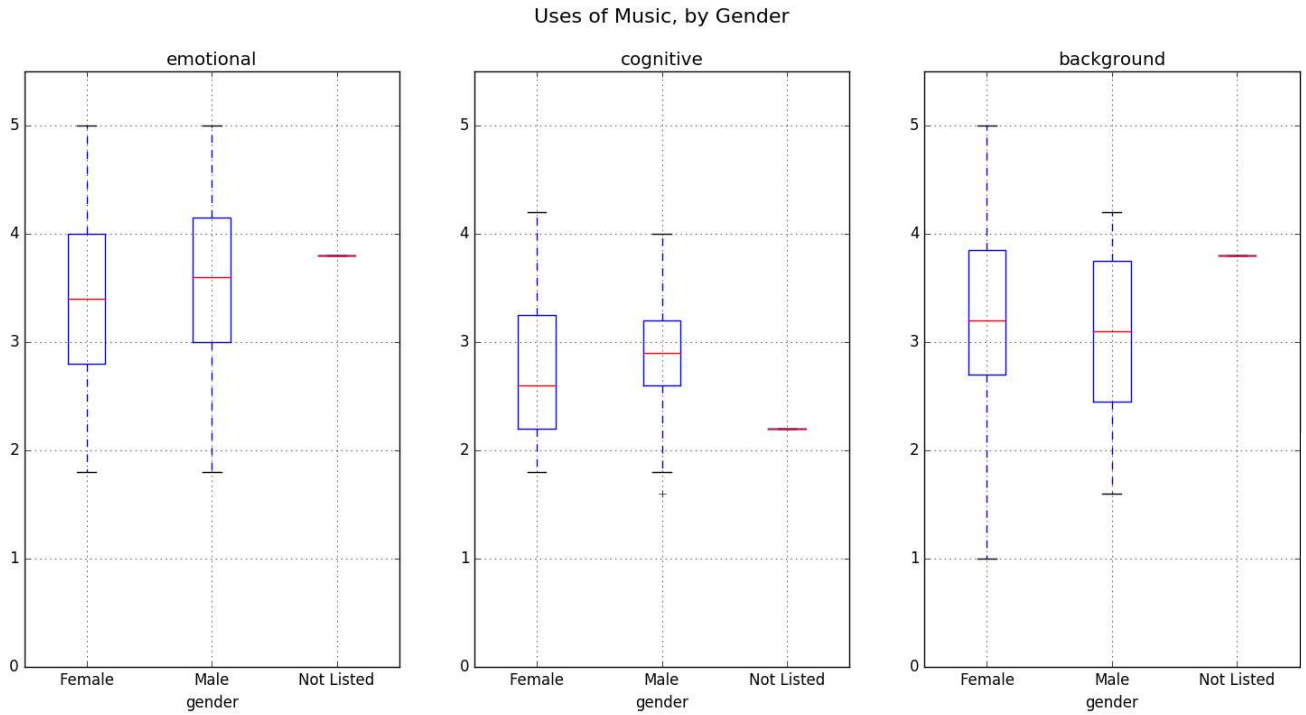

Distribution of Anxiety, by Gender - Italy, Age < 35
Total 44 participants (18 Male, 26 Female)
Male
Female
Count
Anxiety

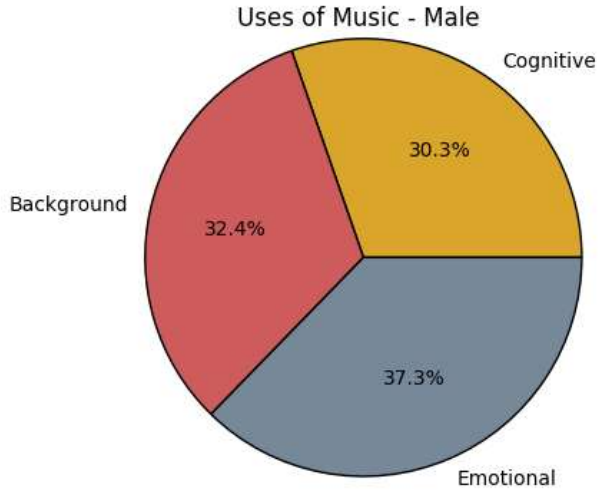


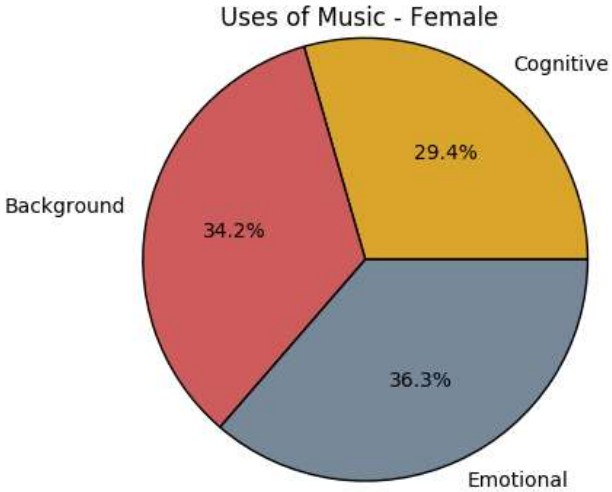
quadrant names suggested by Bartholomew (1990)

Results: 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

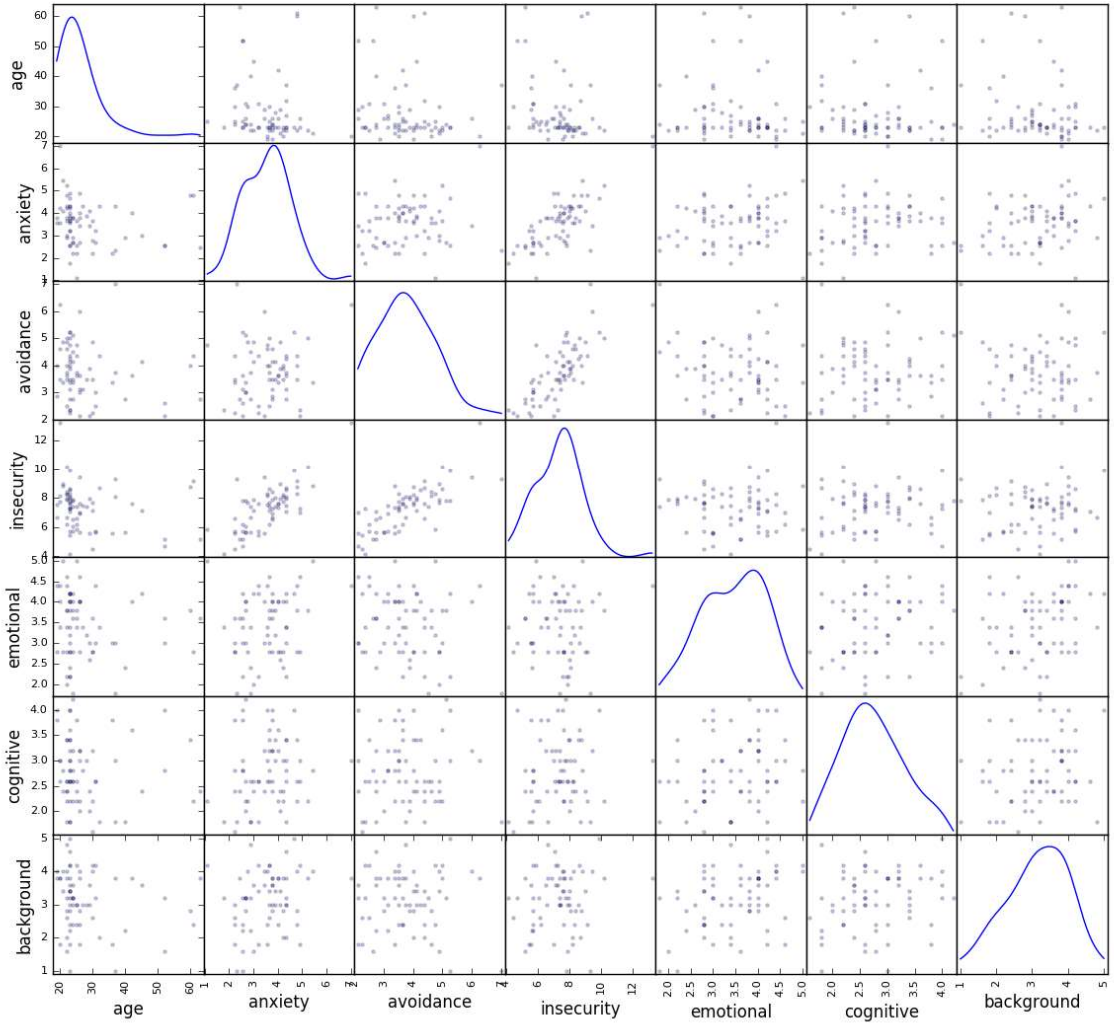

Uses of Music - Male
Cognitive
30.3%
Background
32.4%
37.3%
Emotional

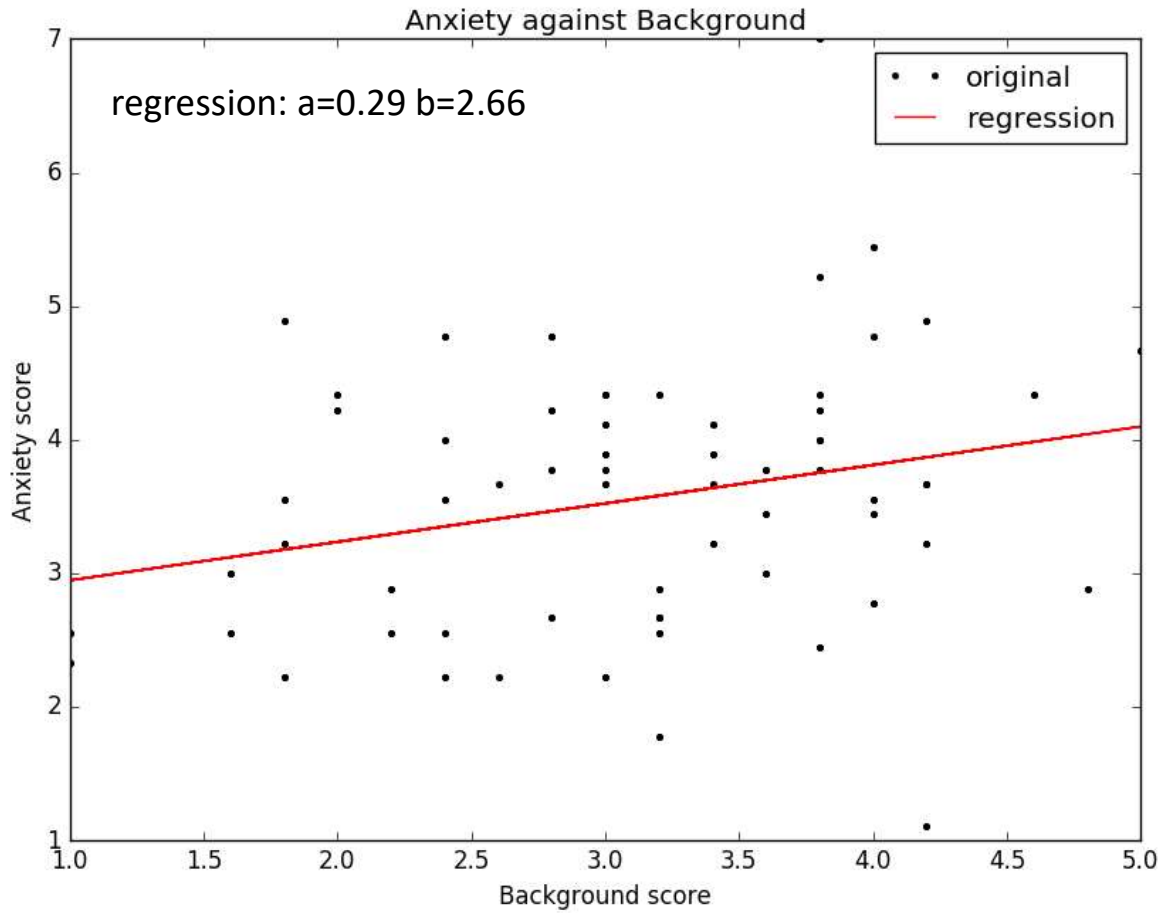

Uses of Music - Female
Cognitive
29.4%
Background
34.2%
36.3%
Emotional

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.

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