

**QUIZZ** Worksheets

Music  
Total questions: 88  
Worksheet time: 47mins  
Instructor name: J B

Name

Class

Date

1.

# Music and Storytelling

"Exploring the Musical Brain" and "The Riddle of Fiction"



2.



What comes to mind when you think of music (1-2 words)?

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3.



How old are the oldest known musical instruments?

- a) 53,000 years old
- b) 30,000 years old
- c) 23,000 years old
- d) 3,000 years old

4.



The oldest musical instruments unearthed by archaeologists are:

- a) Drums
- b) Horns
- c) Flutes
- d) Harps

5.

**The oldest known musical instrument:** A palaeolithic flute from Slovenia, made from a cave bear femur and pierced by two spaced holes.

6.

What did palaeolithic flutes sound like? (this is a reconstruction)



7.

Music is older than **agriculture** (12,000 yrs old, Fertile Crescent, Iraq),

8.

...the **oldest sculptures** (40,000 yrs old, Lion-Man sculpture, Germany),

9.

...the oldest **cave paintings** (45,000 yrs old, Sulawesi, Indonesia),

10.

...and perhaps even older than **language** itself!

11.

## Why Does Music Exist?

- What parts of the brain are involved in processing music?
- How do other animals use music?
- Does music have any evolutionary advantages?
- What is the link between happiness and music?

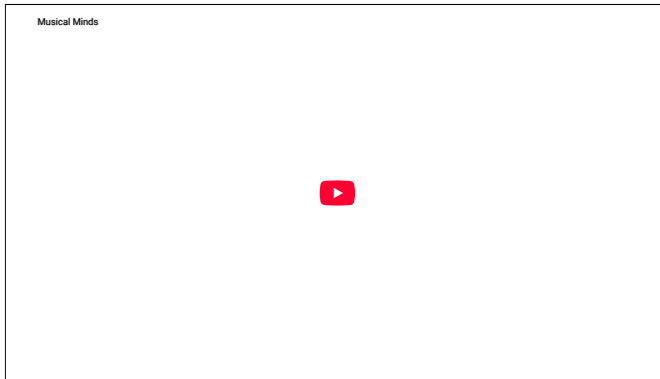
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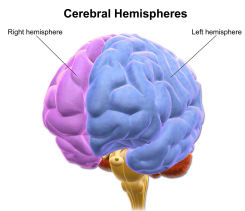
In what part of the brain is the "music centre" located?

- a) The auditory cortex
- b) The region of the brain responsible for higher level executive functions
- c) The brain doesn't have a music centre
- d) The systems of the brain that regulate emotional responses

13.



14.



Although there is no musical centre in the brain, scientists found that people with damage to the \_\_\_\_ had difficulty recognizing changes in **key** (the set of pitches to which notes in a melody belong) and **contour** (the shape of a melody)

- a) The fissure between both hemispheres
- b) Right hemisphere of the brain
- c) None of the above
- d) Left hemisphere of the brain

15.



Music activates parts of the brain associated with:

- a) Emotion
- b) All of the above
- c) Communication
- d) Imagination

16.

The same part of the brain used for **language processing** (the left *planum temporale*) is also involved in **recognizing pitch**

17.

The part of the brain where we create **imagined mental images** (the visual cortex or "mind's eye") reacts to changes in pitch? *Why?*

18.

Music affects the part of the brain that **controls emotion** (the limbic system) -- it's one of the most ancient parts of the brain, and we share it with many other animals

19.



Music with a slow tempo and a minor key leads to feelings of:

- a) Excitement
- b) Happiness
- c) Boredom
- d) Sadness

20.



Music with a quick tempo in a major key causes physical changes associated with what feeling?

- a) Happiness
- b) Fear
- c) Sadness
- d) Boredom

21.

### A Formula for Happiness in Music and Song

Neuroscientist "Dr. Jolij decided on a formula that combines lyrics, tempo, and key to calculate the strength of a song's feel-good nature."

22.

Which pop songs had the highest "happiness scores" according to Dr. Jolij's formula?

23.



As you can see, music has a profound impact on our minds and bodies. Music therapy is used to treat which of the following medical conditions?

- a) All of the above
- b) Parkinson's
- c) Anxiety
- d) Alzheimer's

24.

A Mind Roused by Music



25.

How Dancing Helps Parkinson's patients



26.

Music Therapy Relieves Patient Stress, Pain and Anxiety



27.



When did music first come into the world?

- a) Early in human evolution
- b) Late in human evolution
- c) Long before humans

28.



Besides humans, what other animals (mentioned in the reading) produce music?

- a) Dolphins and porpoises
- b) Songbirds and humpback whales
- c) Chimpanzees and bonobos
- d) Cats and dogs

29.



Select ALL of the similarities between human music and humpback whale song:

- a) Humans and humpback whales use similar rhythms and typically sing in key
- b) Humans and humpback whales mix percussive and pure tones in the same ratios
- c) Human music and humpback whale song follow a similar ABA structure
- d) Human music and humpback whale song both use repetition and rhyming

30.

### Similarities between Human Music and Humpback Whale Song

- Similar **rhythms** and **musical forms** (esp. ABA form)
- **Similar length** to human compositions...*Why?*
- **Sing in key** ("spread adjacent notes no farther apart than a scale")
- **Repeating refrains** and **rhyming**...*Why?*
- Experience "**Ear worms**"! *What is that?*

31.

Two Beautiful Humpback Whales Dance | Animal Attraction | BBC Earth



32.

Why do whales sing? - Stephanie Sardelis



33.



What are the similarities between classical music and birdsong?

- a) All of the above
- b) Same pitch relationships
- c) Same rhythmic variation
- d) Same combination of notes

34.

Was Ludwig van Beethoven a Plagiarist?

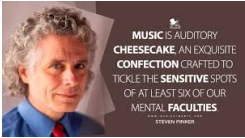


35.

### Perspective 1 (Stephen Pinker)

- Music is not essential to humanity...it's just a way we have FUN
- Music is simply a by-product of language ("an evolutionary accident piggy-backing on language")
- Music is "Auditory cheesecake" (what does he mean by this?)

36.



Do you agree with Stephen Pinker's view that music is not essential for human survival or reproduction (it is simply fun and it gives us pleasure)?

a) No

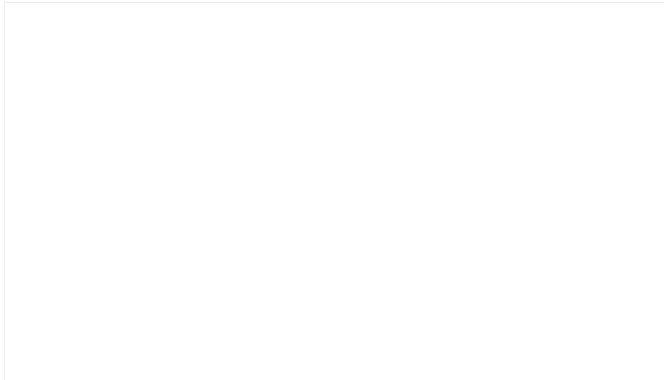
b) Yes

37.

## Perspective 2 (Geoffrey Miller)

- Musical ability demonstrates **fitness to potential mates** (in the same way a peacock uses its colourful tail to attract mates)

38.



39.

How could musical ability show fitness to a potential mate?

- Producing music requires **creativity** and **intelligence**
- Singing requires **good memory**
- Playing an instrument well requires **dexterity**

40.



Do you agree with Miller's view that musical ability may serve to demonstrate fitness to potential mates?

a) No

b) Yes

41.

## Other Evolutionary Advantages

- Music functions as a form of **communication**
- Music stimulates our primitive **timing mechanisms**
- Music stimulates our brains to **find patterns** in the environment (creates order out of disorder and helps us make sense of the world)
- Music **brings people together**, allowing for larger communities and thus more security ("safety in numbers")

42.



Now that we've discussed both perspectives, do you agree more with **Miller** (music has evolutionary advantages) or **Pinker** (music does not have evolutionary advantages -- it's just "auditory cheesecake")?

- a) I agree more with **Pinker** (music does NOT have evolutionary advantages -- it's just "auditory cheesecake")
- b) I agree more with **Miller** (music has evolutionary advantages).

43.

Dr. Mark Whaley: A "Virtuoso Performance"



44.



What comes to mind when you think of **fiction** (1-2 words)?

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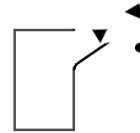
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45.

Experimental study of apparent behavior. Fritz Heider & Marianne Simmel. 1944



46.



What kind of story did YOU see in that video?

- a) Adventure
- b) Drama
- c) Comedy
- d) I didn't see a story

47.

### Findings from the Heider & Simmel Experiment (1944)

- On average, 117/120 who watch this video describe seeing a story, and each of the described stories is different
- Only 3/120 give the reasonable answer that it's just shapes moving around on a screen



48.

### What Does this Mean?

- Our minds can't help but create stories— we do it **effortlessly** and **automatically**, without even trying!
- Our minds are constantly trying to impose the order of story structure on the chaos of existence

49.

### News Stories

50.

### Sports Stories

51.

### Love Stories

52.

### Murder Stories

53.

### Political Stories

54.

**Holy Stories**

55.

**Superhero Stories**

56.

**Advertisements**

57.

**Videogames are Interactive Stories**

58.

A **joke** is a story, a stand-up comedy is storytelling and stand-up comedians are **oral story tellers**.

59.

Through **TV-watching** alone, the average Canadian dedicates 3 hours a day to watching stories.

60.

Whenever you **day-dream**, you are playing fantasy stories in your head

61.

When you catch up with friends, you **trade stories** about your life since you last saw each other

62.

If you gossip, you are telling stories about other people behind their backs

63.

When you catch up with friends, you **trade stories** about your life since you last saw each other

64.

Even after you fall asleep, your brain stays up all night long telling itself stories in the form of **dreams!**

65.

This 44,000-year-old Indonesian cave painting of a buffalo hunt is the world's oldest recorded story.

66.



What is the world's oldest written story?

- a) The Epic of Gilgamesh  
 b) The Story of Atlantis  
 c) The Book of the Dead  
 d) The Book of Exodus

67.

The epic of Gilgamesh, the king who tried to conquer death - Soraya Field Florio



68.

## Evolutionary Benefits of Storytelling?

- **Attracting partners** for reproduction...*How?*
- **Exercises our brains** ("playground for the mind")
- **Low-cost** way of **sharing information** (we can learn "without the potentially staggering costs of having to gain this experience firsthand")
- **Social glue** that brings people together around common values.

69. Which of the evolutionary arguments do you find most convincing?

- a) Meh, I don't buy any of these evolutionary explanations  
 b) Stories are a form of cognitive play that exercises our minds.  
 c) Stories are a way of attracting mates by displaying skill, intelligence, and creativity.  
 d) Stories are a form of social glue that brings people together around common values.  
 e) Stories are a low-cost source of information and vicarious experience.

70.



In the next section of his chapter, Gottschall discusses "the work of children." What does he argue is the "work of children"?

- a) Play  
 b) Imagination  
 c) School  
 d) Chores

71.

**All intelligent mammal species play...but why?**

72.

*" The common view of play across species is that it helps youngsters rehearse for adult life. Children at play are training their bodies and brains for the challenges of adulthood...play is important. Play is the work of children."*

*Jonathan Gottschall*

73.



The stories told by children tend to be:

- a) Plot-driven
- b) Escapist
- c) Character-driven
- d) Sweet and innocent

74.

## The Work of Children

- Unlike adult stories, children's play is **NOT escapist** - it directly confronts the problems of the human condition ("*the land of make-believe is less like heaven and more like hell*").
- Children's stories are
  - **Short and choppy**
  - **All plot**
  - Marked by **zany creativity**
  - Full of **chaos and trouble**

75.

## The Work of Children

- Typical stories from a collection of 360 stories told by preschool-aged children (34):
  - A train running over puppies and kittens
  - A bad girl being sent to jail.
  - A baby bunny playing with fire and burning down his house
  - A little boy killing his family with a bow and arrows
  - A little boy knocking out people's eyes with a cannon
  - Children killing a witch by stabbing her belly with 189 knives

76. Do you think the violent themes in children's play are mostly **natural** or **cultural** in origin?

- a) It's mostly **natural** in origin (children are training for the challenges of adulthood)
- b) It mainly comes from **culture and environment** (the stories we tell children are full of violence)

77. Which of the following contains the most violence (by far)?

- a) Children's movies
- b) Nursery rhymes
- c) None of these contain violence
- d) Children's television shows

78.

- On average, children's TV shows contain 5 violent scenes per hour
  - **Read-aloud nursery rhymes contain 52!**

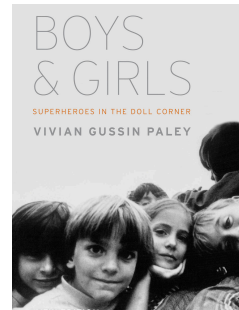
79.

In one collection of familiar nursery rhymes, a critic counted 8 murders, 2 choking deaths, 1 decapitation, 7 cases of severed limbs, 4 cases of broken bones.

80.

**Fairy tales** have been sanitized, but they are still full of **disturbing material**.

81.



In the section "Boys and Girls," Gottschall discusses how dozens of studies across five decades and a multitude of cultures have found that:

- a) Boys and girls play in the same way.
- b) Boys and girls spontaneously segregate from each other when playing.
- c) None of the above
- d) Boys and girls spontaneously play together.

82.



Compared to boy's play, girl's play is more:

- a) Focused on pretend parenting.
- b) All of the above
- c) Focused on fantasy themes.
- d) Sophisticated.

83.

## Gender Differences in Play

Gender differences in play begin around 17 months:

- **Boys** = rougher, more aggressive, less nurturing
- **Girls** = more sophisticated, more fantasy play, more focus on pretend parenting

84.



Educator Vivian Paley spent a year trying to get the children in her classroom to play in a more unisex way (for example, forcing the boys to play in the doll corner and the girls to play in the block corner). What happened?

- a) The children resisted the changes, reverting to gendered play.      b) The children stopped playing altogether due to the enforced changes.
- c) The classroom became more competitive, with boys and girls forming separate teams.      d) The children quickly adapted and preferred unisex play by the end of the year.

85.

Gottschall believes that gender differences in play reflect "*the basic division of labor- men doing the hunting and fighting and women doing the foraging and parenting-that has characterized human life over tens of thousands of years.*"

86.

What are some problems with Gottschall's argument?

87. What do you think? Are these gender differences in play due to **cultural** or **biological** reasons?

- a) Gender differences in play are mostly **biological**.      b) Gender differences in play are mostly **cultural**.

88.

## Schedule for Next Week

### April 21

- 10:45 am: **Final Exam** HERE, in the lecture hall (E135)
- 12:35 pm: **Makeup Tutorial Assignment** in your regular tutorial rooms, with your regular tutorial instructor.