

Master data and music consumption (Response/Secondary Data)

- Sex: female male
- Age / Nationality:years(english)
- Job: student trainee / apprentice
 student at university other
- Education elementary school college
 high school university
 other
- How loud is the area where you live?
 quiet
 busy road / industrial area (during the day)
 busy road (day and night)
 rail/ aircraft noise (day and night)
- Ever had any ear-related problems? no problems ear buzzing
 sudden deafness cocktail party syndrome
 whistle (tinnitus)
- What kind of music do you like? rock/pop classical music
 dance/house/techno jazz/blues/country
 heavy metal other
- Which of these do you use? earplugs
 earphones/ headphones
 loudspeakers
- How is your music? quite soft normal
 quite loud very loud
- For how many hours a day do you listen to music? up to 1 hour 2-3 hours
 over 3 hours
- How often do you go to the disco/ a concert per month? seldom 1-2 times
 3-4 times over 5 times
- How many hours do you stay in a disco? not relevant up to 2 hours
 up to 4 hours over 4 hours

Status quo Knowledge


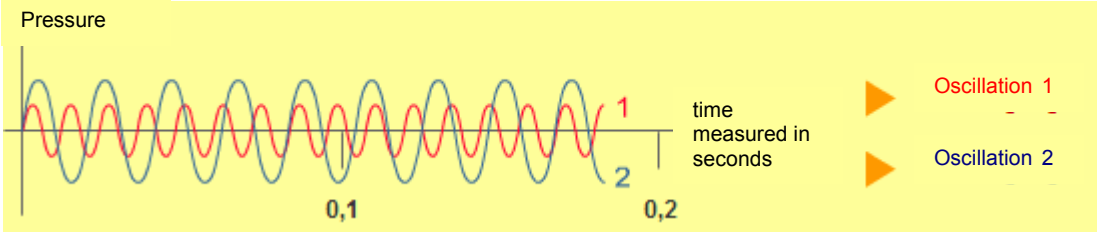
Nr.	questions	selections
1	Which term is used to refer to the volume of a sound?	<input type="checkbox"/> sound pressure <input type="checkbox"/> frequency <input type="checkbox"/> pitch
2	What is "decibel (dB)?"	<input type="checkbox"/> kind of noise <input type="checkbox"/> sound pitch <input type="checkbox"/> sound pressure level <input type="checkbox"/> ear medicine
3	Which ear protections do you know?	<input type="checkbox"/> mickey mouse <input type="checkbox"/> cap <input type="checkbox"/> earplugs <input type="checkbox"/> a break from noise
4	With which part of your ear do you actually hear?	<input type="checkbox"/> ossicles <input type="checkbox"/> cochlea <input type="checkbox"/> eardrum <input type="checkbox"/> auricle <input type="checkbox"/> brain
5	Can damages caused in the inner ear be repaired?	<input type="checkbox"/> yes <input type="checkbox"/> no
6	Which decibels are perceived as two times as loud as 80dB?	<input type="checkbox"/> 83 dB <input type="checkbox"/> 90 dB <input type="checkbox"/> 160 dB
7	Is a sound that is perceived as "two times as loud" also "two times as dangerous" for your ears?	<input type="checkbox"/> yes <input type="checkbox"/> no
8	From which decibels is it advisable to wear ear protection?	
9	Do you usually turn up your Loudness to maximum when listening to a CD or MP3?	<input type="checkbox"/> yes <input type="checkbox"/> no
10	If you increase the energy of a sound by ten: As how much louder do your ears perceive this increase?	<input type="checkbox"/> 10 times <input type="checkbox"/> no change <input type="checkbox"/> two times
11	Which symptom indicates that you might have an ear problem?	<input type="checkbox"/> shivering fit <input type="checkbox"/> ringing <input type="checkbox"/> fever <input type="checkbox"/> ear pressure
12	Which part of your ear is the most sensitive one?	
13	What do you do when you have a permanent noise (whistle, ringing, buzzing) in your ears?	<input type="checkbox"/> wait and see <input type="checkbox"/> see a doctor <input type="checkbox"/> drink a lot <input type="checkbox"/> take aspirin

Acceptance

Nr.	questions	selections
1	Have you ever heard of earaction before?	<input type="checkbox"/> yes <input type="checkbox"/> no
2	Are you interested in learning more about your ears?	<input type="checkbox"/> yes <input type="checkbox"/> no
3	What are your expectations on an information-CD about noise and hearing?	<input type="checkbox"/> learn more <input type="checkbox"/> being entertained <input type="checkbox"/> play games <input type="checkbox"/> see a lot of animation <input type="checkbox"/> other
4	Do you like the "look" (colors, design) of earaction?	<input type="checkbox"/> very much <input type="checkbox"/> it's o.k. <input type="checkbox"/> not at all
5	Do you like the earaction logo?	<input type="checkbox"/> very much <input type="checkbox"/> it's o.k. <input type="checkbox"/> not at all
6	Where would you like to test earaction?	<input type="checkbox"/> at school <input type="checkbox"/> at home <input type="checkbox"/> at a get-together with friends
7	Do you think that a hearing test is important?	<input type="checkbox"/> yes <input type="checkbox"/> no
8	Has your hearing ever been tested?	<input type="checkbox"/> yes <input type="checkbox"/> no

Clues to use earaction

1. Please find the following pictures:

	<p>a) I found it _____</p> <p>b) What is it? _____</p>
	
<p>How are the speed of an oscillation and the pitch of a sound connected with each other? (2 answers are correct)</p> <p><input type="checkbox"/> fast oscillation → high-pitched sound</p> <p><input type="checkbox"/> fast oscillation → low-pitched sound</p> <p><input type="checkbox"/> slow oscillation → high-pitched sound</p> <p><input type="checkbox"/> slow oscillation → low-pitched sound</p>	

2. Which parts of your ear are found in your middle ear?

- hammer auditory canal auricle anvil
 cochlea semicircular canals

3. Where is your sense of balance?

- eardrum cochlea
 semicircular canals ossicles

4. What is a mickey mouse? _____

5. What does “decibel (dB)” mean? _____

6. When you expose your ears to at least _____ dB, your ears can get damaged.

7. What does sound intensity mean?

- type of music energy frequency

8. What do you do/ which devices do you use to protect your ears?

(More than one answer possible)

- | | | |
|---|--|--|
| <input type="checkbox"/> earplugs | <input type="checkbox"/> Mickey Mouse | <input type="checkbox"/> cotton wool |
| <input type="checkbox"/> Goofy | <input type="checkbox"/> signs | <input type="checkbox"/> Donald Duck |
| <input type="checkbox"/> insulate noise | <input type="checkbox"/> noise cancellation | <input type="checkbox"/> laws |
| <input type="checkbox"/> steer clear of noise | <input type="checkbox"/> take a break from noise | <input type="checkbox"/> increasing distance |

9. The sound level found in a disco is about 100 dB.

How long can you expose your ears to this sound level for a week without damaging them?

- | | | |
|----------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> 4 hours | <input type="checkbox"/> 48 minutes | <input type="checkbox"/> 15 minutes |
|----------------------------------|-------------------------------------|-------------------------------------|

10. How is the level of a sound connected with its intensity?

sound level + _____(? dB) = double intensity

(Use earaction to find out!!!)

11. Use earaction to solve this equation.

sound level + _____(? dB) = double perception of loudness

12. What is a blast trauma?

What should you do immediately after suffering it?

13. What is an equalizer? What can you do with it?

14. In the section “Your Hearing” – „Hearing Damage,“ you can listen to a song, and change its sound using control levers.



How does the song sound like when the listener’s ears had been damaged by loud noise?

(More than one answer possible!!)

- dull
- jarring
- high-pitched
- normal
- muffled
- intensive

How is music perceived by people who are hard of hearing by age?

- dull
- jarring
- high-pitched
- normal
- muffled
- intensive

15. What is a “phon” curve? _____

16. Do your ears thank you if you take a break from loud noise? yes no

17. When are your ears in danger?

- if I can talk to a friend by raising my voice
- if I need to shout to be understood by a friend
- if you have to shout and your friend still hardly understands a word

18. If you perceive the increase of a volume as an increase of two

- its energy is increased by two
- its energy is increased by four
- its energy is increased by ten

Evaluation

Grade earaction.

(1 = very good 2 = good 3 = o.k. 4 = less than o.k 5 = bad 6 = useless
Circle or check the grade of your choice.)

The text was understandable	1	2	3	4	5	6
<input type="checkbox"/> yes <input type="checkbox"/> no Why? Give examples:						
Pictures	1	2	3	4	5	6
<input type="checkbox"/> I liked them all <input type="checkbox"/> I didn't like some of them						
Why? Give examples:						
I found what I was looking for (navigation) 1	2	3	4	5	6	
<input type="checkbox"/> yes <input type="checkbox"/> no Why? Give examples:						
Experiments	1	2	3	4	5	6
<input type="checkbox"/> I liked them all <input type="checkbox"/> I didn't like some of them						
Why? Give examples:						
Game	1	2	3	4	5	6
<input type="checkbox"/> I liked it <input type="checkbox"/> I didn't like it						
Why? Give examples:						
Version: <input type="checkbox"/> German <input type="checkbox"/> English <input type="checkbox"/> Turkish	1	2	3	4	5	6
<input type="checkbox"/> I liked it <input type="checkbox"/> I didn't like it						
Why? Give examples:						
Grade the whole product	1	2	3	4	5	6
Who should check out earaction? (friends, brothers and sisters, parents ...)						