Music Psychology – Detailed Notes

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Concept 3: Music and the brain (lecture by Dr Claire Lee)

3.1 Music and neuroscience

- Music neuroscience explores how music affects brain function and behaviour.
- When we hear sound, the brain's response follows the acoustic properties of the sound itself.

3.2 The ear

- The process of auditory processing begins in the **cochlea**, a small spiral organ in the inner ear that converts mechanical energy (vibrations) into neural signals. Hair cells along the basilar membrane do the converting.

Structure	Role
Auricle (pinna) and external auditory meatus	Collect sound and channel it down the ear canal
Tympanum (eardrum)	Vibrates with the incoming sound pressure waves
Malleus, incus and stapes	The three ossicles in the middle ear cavity, which pass the vibration on and amplify it
Cochlea (with the round window)	Converts vibration of the fluid inside into neural signals; the round window lets the fluid move
Cochlear nerve and vestibular nerve	Together form cranial nerve VIII (N. VIII); the cochlear nerve carries hearing, the vestibular nerve carries balance
Eustachian tube	Connects the middle ear to the throat and equalises pressure

3.3 The central auditory pathway

- The auditory pathway continues to the thalamus and primary auditory cortex, where sound is processed at a basic level. In order, the signal passes through:
    a. the **cochlear nuclei** (medulla), where the auditory nerve first synapses;
    b. the **superior olivary nuclei** (pons), the first place where input from the two ears is combined, which is important for locating where a sound comes from;
    c. the **nucleus of the lateral lemniscus** (pons);
    d. the **inferior colliculus** (midbrain);
    e. the **medial geniculate nucleus** of the thalamus;
    f. the **primary auditory cortex** in the temporal lobe.
- Crossing fibre tracts (the trapezoid body and the dorsal and intermediate acoustic striae) mean that each side of the brain receives information from both ears.

7.2 Key terms

Term	Meaning
Affect	A broad umbrella term that covers all evaluative or valence states
Emotion	A brief but intense affective reaction
Mood	An affective state that is longer lasting and occurs at a lower intensity
Preference	An affective evaluation with low intensity

7.3 Induced and perceived emotion

- It is important to differentiate between induced and perceived emotion.
- **Induced emotions** are the emotions actually experienced (felt) in response to music.
- **Perceived emotions** are the recognition of emotions in the music without feeling them. For example, you can hear a piece as sad without feeling sad.

7.4 Measuring responses to music

Method	Examples	Strengths and limitations
Self-report	Likert-scale survey items, visual analogue scales, diary studies	Easy to collect, but limited by biases (for example wanting to give the expected answer) and by people's lack of knowledge about their own internal processes
Physiological	Blood pressure, heart rate, skin conductance	Provide objective data, but can be costly and invasive

- Researchers are increasingly pairing self-report measurements with physiological measurements to give a more comprehensive understanding of emotional responses to music.

7.5 Underlying mechanisms

- The mechanisms through which music induces emotions are not fully understood.
- Theories include the ability of music to activate the release of certain chemicals in the brain, such as dopamine (reward) and oxytocin (social bonding), and its ability to activate neural pathways associated with emotion.
- A widely used framework, BRECVEM, lists several mechanisms (see Concept 8).

7.6 Factors that influence the experience of music

- **Individual differences:** personality, mood and past experiences.
- **Context:** the environment or social setting.
- **The music itself:** genre, tempo and lyrics.

7.7 Summary

- The link between music and emotion is complex and multifaceted, with ongoing research aiming to understand the mechanisms and the factors that influence our emotional responses to music.

Concept 9: Music and adolescents (lecture by Professor Katrina Skewes McFerran)

9.1 Music consumption

- The relationship between young people and music is powerful, and the teenage years are a time of high commitment to music.
- Research from 2000 shows that teenagers listened to music for 2.5 hours per day, even before the widespread use of portable music devices.
- The development of technology has led to an increase in music consumption, with some studies suggesting an average of 25 hours per week spent listening to music.

9.2 Adolescence and music

- The concept of adolescence as an independent stage of development is relatively new. The teenage market for popular music was only distinguished in the 1960s.
- Late adolescence and early adulthood is a critical period in which music preferences become fixed and have a lasting impact.

9.3 Types of music

- The study of music preferences among young people often focuses on the genre or type of music they enjoy.
- The classification of music into categories can be understood as both a marketing strategy and a reflection of consumer taste.
- Studies in music psychology tend to categorise people by the types of music they have an affinity for, for example Metal Heads and Pop Fans.
- In a study by Julian Tanner and colleagues in Toronto, Canada, a list of music fan groups was created: Club Kids, Black Stylists, Hard Rockers, New Traditionalists, Ethnic Culturalists and, importantly, **abstainers**, a category for those with minimal interest in music.
- The study highlights the diversity of music preferences among young people and the importance of considering cultural and societal factors.
- Music preferences are complex and multifaceted, and are influenced by personal experience, cultural background and societal influences.

9.4 Music and adolescent wellbeing

- Correlations between music and adolescent wellbeing are not conclusive, and it is not good science to suggest causation from correlation.
- Young people often report relying on music to make them feel better during difficult times, but different factors influence how music is used in helpful or unhelpful ways.
- It has not been proven that music listening has a causal influence on wellbeing. Music listening reflects the individual adolescent rather than making them become something they are not already.
- Music listening is powerful, especially during the adolescent years, so it is important to ensure that it is working positively for the individual.