

AQA

Psychology

Second Edition

GCSE



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6.4 How is non-verbal behaviour explained?

Getting started

You may have heard of Charles Darwin and the theory of evolution before. Work with a partner to write down the key ideas that you remember.

One key idea is natural selection. For an organism to **evolve** successfully, survival and reproduction are essential. Genetic characteristics that increase an organism's chance of surviving and successfully reproducing are more likely to be passed on to successive generations.

The second key idea is known as 'survival of the fittest'. Successful **adaptive** organisms that have made the best changes in order to fit their situation and environment, are the ones most likely to survive and reproduce.

Darwin's evolutionary theory of non-verbal communication

In his book, *The Expression of the Emotions in Man and Animals* (1872), Darwin suggested several principles for the evolution of non-verbal communication that expresses emotions.

One of these principles is serviceable associated habits. A serviceable behaviour is one that has a purpose. For example, humans may have used biting as an early form of self-defence. In the same way that many animals do, they may have exposed their teeth as a threat signal. A serviceable associated habit happens when we have a similar experience, but now the behaviour does not have the same purpose. The behaviour is now a habit associated with feeling a certain way or certain situations. This may be why people expose their teeth when they have an angry facial expression.

Darwin also suggested the principle of actions due to the constitution of the nervous system. This simply means that some forms of non-verbal communication are caused by our nervous system. Dilated pupils and an open mouth are part of a frightened facial expression, but they are also some of the effects of adrenaline being released into our bodies by our nervous system during the fight or flight response.

Did you know

The phrase 'survival of the fittest' is strongly associated with Darwin's theory but was actually first used by English philosopher Herbert Spencer.

Objectives

You will be able to:

- describe and evaluate Darwin's evolutionary theory of non-verbal communication
- understand the distinction between innate and learned
- describe evidence that non-verbal behaviour is innate
- describe evidence that non-verbal behaviour is learned.

Key terms

Adaptive: being able to change in order to fit different situations and environments

Evolve: to slowly develop over successive generations into a different state or condition

Innate: inborn or inherited – that is, not learned

Learned: abilities or characteristics gained through experience

Synoptic link

For more information about the fight or flight response, see pages 148–149.

Building skills 1

Can you think of any ways in which facial expressions or eye contact could help humans' chances of survival and reproduction? **K**

Examples of facial expressions that could help with our survival are the pupil dilation and open mouth seen in a frightened facial expression. Pupil dilation increases visual information, potentially allowing us to see the best way to avoid danger. An open mouth increases oxygen supply, allowing us to move away from a threat much faster.

As we learned earlier, pupil dilation also happens when we are attracted to someone. It also makes us more attractive to other people. We also interpret a high level of looking as a signal of attraction. These are examples of non-verbal communication that could help with reproduction.

Building skills 2

What do you think of Darwin's theory of non-verbal communication? Working with a partner, try to think of at least one evaluation. **E**

Going further

Think about some other forms of non-verbal communication (for example, posture and personal space). How might they help with human survival and reproduction?

Evaluation

There is research to support Darwin's claims. Medical evidence supports the idea that the function of our nervous system causes certain actions, such as pupil dilation. Other research suggests that at least some non-verbal behaviours are genetic or **innate** (see page 140).

It is possible that some non-verbal behaviours are not genetic but that they are instead **learned** by watching others. Social learning theory believes behaviours are learned through observing and copying others. Research that supports the theory that non-verbal behaviour is learned is explored on pages 134–135.

Some behaviours may be both innate and learned. We are born with the ability to cry and to laugh and these behaviours can happen spontaneously – but we can also learn to control them and to use them in a way that is considered socially and culturally appropriate.

Not all human behaviours obviously help humans to survive or reproduce. This may also be the case with some non-verbal behaviours, such as the use of gestures.



A Does this expression help to ensure our survival?



B Charles Darwin

Did you know

Darwin went to medical school but left because he hated the sight of blood and found the lectures boring.

Exam tip

You may have learned about Darwin's theory of evolution in other subjects. When answering psychology exam questions about Darwin, it is important to make sure that your answer focuses on your psychological knowledge of his theory.

Where does our ability to use non-verbal behaviour come from?

Getting started

Working in a group, write each of these words on six separate pieces of paper: happy surprised angry afraid sad disgust

Now put the pieces of paper into a container.

Get a member of your class to take out one piece of paper at a time and act out the facial expression. Everyone else in the class should write down what they think the expression is. Were some expressions easier to guess accurately than others?

Is non-verbal behaviour innate?

Darwin believed that facial expressions are the same in all cultures and are therefore innate and not learned. Some research also suggests that expressions of anger, disgust, fear, happiness, sadness, and surprise are recognised by most cultures throughout the world.

An experiment filmed people from Papua New Guinea telling a story using non-verbal communication. The film was then shown to American college students, who were able to accurately identify the emotions being shown.

Darwin's theory that emotional expressions are genetic or innate, suggests that they should be found in **neonates**. The younger a baby is when they make these expressions, the less likely it is that they have learned them by observing others.

Research has shown that neonates use a pre-cry expression that suggests sadness, as well as smiles and facial expressions that show disgust, pain, and surprise.



C Are facial expressions like these recognised by everyone?


Key terms

Neonates: a newborn infant of less than 4 weeks of age

Sensory deprived: receiving little or no sensory stimuli, such as light or sound

Going further

Working with a partner, use the facial expressions shown in Photo C to design and conduct an investigation to test the similarity of people's recognition of these expressions.

 See Chapter 4 for advice on how to design an effective experiment.

Report your findings to the rest of the class.

Did you know

The character Dr Lightman from the TV series *Lie to Me* is based on the psychologist whose research showed that many facial expressions are widely recognised.

Synoptic link

Applying what you learned about the roles of nature and nurture in Topic 3.1 will help you to discuss the question of whether or not non-verbal behaviour is innate or learned.

The information we receive through our different senses helps us to learn. If non-verbal behaviours are learned, people who are **sensory deprived** should not be able to use them in the same way.

Research has shown that babies who are born blind have smiling behaviours that are similar to that found in babies with normal vision.

Researchers used 4800 photographs of sighted and blind athletes to compare the facial expressions they made at significant moments. They found that both the sighted and the blind athletes expressed their emotions in similar ways. For example, 85 per cent of silver medallists produced social smiles during the medal ceremony. A true smile causes the eyes to narrow and the cheeks to rise, but a social smile only uses the mouth muscles. This suggests that the silver medallists were not truly happy to come second and they had learned to give a social smile in this situation.



D Is the ability to use non-verbal behaviour something we are born with or something we learn?

Building skills 3

The research considered so far in this topic has focused on facial expressions. Do you think that other forms of non-verbal behaviour (such as eye contact, touch, and personal space) are also the same in all cultures? Give reasons for your answer.

K

Is non-verbal behaviour learned?

While research does seem to suggest that some non-verbal behaviour is innate, there is also evidence that some is at least partly learned.

Topic 6.3 explored the cultural differences in the use of personal space and touch. Cultural differences are learned by observing and copying others around us. Yuki's study of emoticons suggests that the way we understand facial expressions is partly affected by culture.

Non-verbal communication and speech are closely linked. This is seen in the way eye contact is used to help a conversation flow smoothly. This non-verbal behaviour is learned at the same time as we learn to use language, and both are learned through social interactions.

Historical and generational changes in the use of non-verbal communication help to support the argument that it is a learned behaviour.

1. What is meant by the term 'innate'? (2 marks)
2. Give an example of a non-verbal behaviour that is considered to be innate. (1 mark)
3. Evaluate Darwin's evolutionary theory of non-verbal communication. (5 marks)

Did you know

The handshake as a gesture is quite a recent addition to British society. Until the seventeenth century, people bowed or curtsied instead. The handshake was only used to seal agreements.

Going further

Do some research into cultural or historical differences in the use of non-verbal communication. Share your findings with the rest of the class.

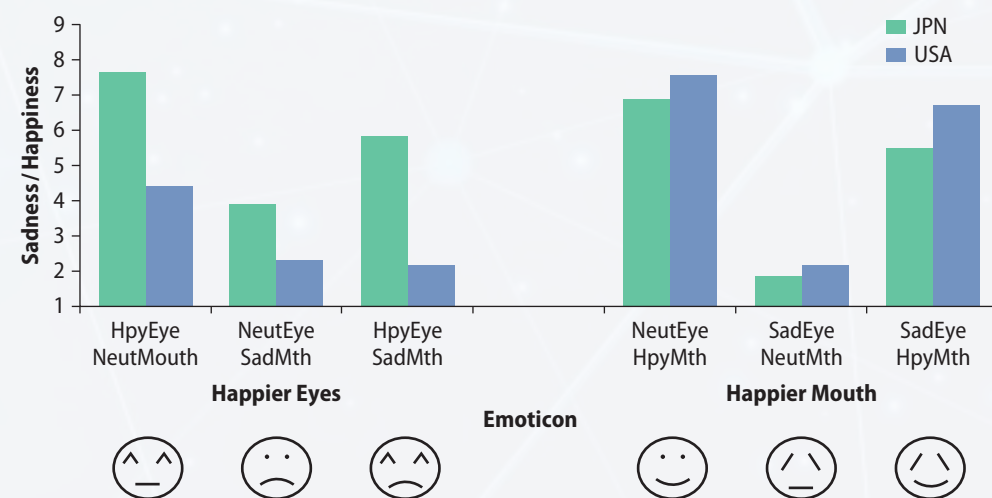
6.4 Key research study: Yuki

Yuki's emoticons study (2007)

Aim: To investigate if culture affects how facial cues are used when understanding other people's emotions.

Study design: A questionnaire with standard questions for all the participants and a rating scale of 1 to 9. Participants were American and Japanese students.

Method: Yuki showed participants emoticons with six different combinations of eyes and mouths. The eyes and mouths were happy, neutral, or sad. Participants were asked to rate how happy they thought each face was.



A Emoticons similar to those used by Yuki

Results: The Japanese students gave the highest ratings to the faces with happy eyes and the lowest ratings to the faces with sad eyes. The American students gave the highest ratings to the faces with happy mouths and the lowest ratings to the faces with sad mouths. The results suggest that Japanese and American people give more weight to different parts of the face when interpreting another person's emotions. The Japanese focus more on the eyes, while Americans focus more on the mouth. This may lead to a difference in their understanding of facial expressions.

Conclusion: Yuki concluded that people learn their own culture's norms for the expression and interpretation of emotions. Yuki suggested that the results may be related to how openly a culture expresses emotion. Research has shown that the eyes muscles are not as easy to control as those around the mouth. Therefore, the eyes might be seen as the most truthful facial cue in cultures that try to limit their outward emotional expression (such as Japan). But the mouth may be seen as the best guide in a culture where open emotional expression is normal (such as the USA).

Source: Yuki, M., Maddux, W. and Masuda, T. (2007) 'Are the windows of the soul the same in the East and the West?', *Journal of Experimental Social Psychology*, 43, 303–311.

Evaluation

Why this study is important

Yuki's study provides support for the theory that non-verbal behaviour is learned.

Limitations of the study

- Yuki used emoticons instead of real faces. Interpreting the emotion shown by emoticons is not a natural, everyday behaviour. Therefore, it can be argued that the study lacks ecological validity. However, when researchers used photos instead, the results were the same.
- The participants were aware that they were taking part in a piece of research, so they may not have given true responses. One reason for this is demand characteristics. The researchers may have given subtle clues to the participants about the answers they were expected to give. This would make the research less reliable.
- The sample is limited because all the participants were students. This means that the findings are not representative of younger or older people.
- The study only looked at happy and sad expressions and not at any other emotions. Therefore, the findings cannot be generalised to facial expressions of all emotions.



B Could these two women be interpreting each other's facial expressions differently?

Support for Yuki's findings

Yuki carried out a second study using photographs. He used computer software to create faces with different combinations of happy and sad eyes and mouths. The results were the same as in the previous study with emoticons.

Going further

Working with a partner, use the emoticons shown to conduct your own investigation into people's interpretation of facial expressions. Do your findings suggest that your participants gave more weight to the eyes or the mouth?

Compare your results with Yuki's.

Building skills 1

Yuki used emoticons, not real faces. Therefore, his study does not test people's normal behaviour. Working with a partner, think about how the research could be carried out in a way that is more ecologically valid. **A**

Building skills 2

Imagine you are going to carry out a study using photos just like Yuki did in his second study. Work out what the independent variable (IV) and the dependent variable (DV) are and then write an appropriate hypothesis (see pages 66–67 for help with writing a hypothesis). **K A**

Then ask someone else to check if it is a testable statement. This means that your hypothesis needs to have both conditions of the IV as well as a DV that can be measured.

Synoptic link

In Topic 2.6, you considered how factors such as culture and emotion can influence perception. You can apply this learning when discussing the findings of Yuki's study.