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.

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.

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
understand facial expressions is partly affected by culture.

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.

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.

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.

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)

Practise exam questions
7.5 Key research study: Tulving

Tulving’s ‘Gold’ memory study (1989)

Aim: To explore connections between types of memory and brain activity.

Study design: Case studies

Method: Six people were injected with a mildly radioactive gold isotope, which spread through the bloodstream and into the brain. The gold isotope had a half-life of only 30 seconds, so it presented minimal risk to the participants. The distribution of these particles was measured using a form of PET scanning called regional cerebral blood flow, which measures blood flow in different areas of the brain. The study compared episodic memory, in this case the memory of something they had experienced personally, like a holiday or a trip, with semantic memory, such as knowledge they had learned through reading a book. The researchers also looked at whether the memory was recent or whether it had been established some time ago. The participants were all volunteers, and chose their own topics.

Each participant lay on a couch with eyes closed and began thinking about the topic. After 60 seconds, the gold isotope was injected, and after 7–8 seconds a reading of rCBF was taken. The reading lasted 2.4 seconds, and consisted of 12 rapid scans of 0.2 second each.

Each participant experienced eight trials in all, with a rest of two minutes in between. The design involved two kinds of memory (episodic and semantic), two time periods for the memories (recent or remote), and each of these conditions was investigated twice.

Results: Three of the participants were dropped from the analysis because their results were inconsistent. However, the remaining three showed clear differences in blood flow patterns depending on whether they were remembering episodic or semantic information. This difference was the same regardless of whether what they were remembering was recent or had taken place a long time ago. Figure A shows the general differences in blood flow patterns between episodic memories and semantic memories found in this study. In general, episodic recollection produced more activation of the frontal and temporal lobes, while semantic recollection produced more activity in the parietal and occipital lobes of the cerebral cortex.

Conclusion: Tulving concluded that semantic and episodic memories produce activity in different parts of the brain.

Evaluation

Why the study is important

- The study was one of the first to show how we can investigate cognitive processes in the living brain.
- The study showed different areas of brain activity are related to cognitive processes.
- It used ethical procedures and the participants were fully informed before giving their consent.

Limitations of the study

- Only three participants showed the effects, so they may not apply to everyone.
- There was no way of controlling what people were actually thinking about at the exact moment of the scan.
- The participants were fully informed volunteers who may have tried very hard to get the procedure to work.

Exam tip

The design of this study involved two pairs of conditions. Revise counterbalancing as a research method (see page 72), so that you could describe how the conditions should have been arranged to control for order effects.

Key terms

- Episodic memory: unique memories which are concerned with personal experiences or events
- Semantic memory: memories which are concerned with general knowledge rather than personal experience

What causes addiction?

Theories of addiction suggest that the causes are biological, psychological, cultural, social, and environmental. Each of these areas and the relationship between them is complex and this makes it difficult to determine a definite cause. We will consider two of these areas in more detail.

The influence of nature – a biological explanation for addiction

Some people may inherit a genetic vulnerability towards addiction. This does not mean that someone with certain genes will definitely develop an addiction. It means that some people are more likely than others to become addicted to the substances they try because of the influence of nature. However other factors, such as environment, are also involved.

Evidence for there being a genetic vulnerability towards addiction initially came from the study of twins. Kaj’s twin study of alcohol abuse was one of the first in this area and we will learn more about it on page 186. Twin and adoption studies strongly suggest that addiction to tobacco, alcohol, and illegal drugs all have a hereditary element. Research suggests that environmental factors have a greater effect on someone starting to use a substance, and hereditary factors have a greater effect on an individual’s likelihood of moving from regular use to addiction.

Modern research methods and greater knowledge of DNA have allowed exact genes to be identified for many disorders and conditions, but although some progress has been made towards identifying the genes involved with addiction, there are thought to be hundreds, possibly thousands, of genetic variations involved.

The influence of nurture – a psychological explanation for addiction

Environmental conditions, part of the influence of nurture, are also thought to be a key explanation for addiction. Psychologists studying social influence and conformity have found that we change our behaviour as a result of social pressure. We do this in order to avoid rejection and to feel that we are part of a group. Research shows that age is a factor affecting conformity and that young people are more likely to conform.

A report by the National Institute on Drug Abuse found that that 90 per cent of cigarette users in the United States started smoking when they were teenagers. Most of them believe that they were strongly influenced by seeing others, such as their friends, smoking.

Peer influence has also been found to be a strong factor in the use of drugs during teenage years. A study into peer influence found that individuals whose friends used drugs were more likely to start to use drugs. However, they also found that the family members’ attitudes towards drug use was an important factor.

Another study found that teenagers are also influenced by peers to not use substances. Researchers found that teenagers were influenced by the anti-alcohol views of others, especially when the individual expressing these views was seen as popular amongst their peer group.

The theory that peer influence may affect the development of an addiction does not take into consideration that people generally choose the groups they want to be a part of. Our thoughts and views on substance use are also likely to have an effect on the peer groups we join.

While peer influence may affect how likely someone is to start using substances, substance abuse and addiction may also be affected by genetics, mental health problems, personality, social and cultural norms, environment, and experiences of trauma.