

Year 12-13 Psychology Summer Work ("Bridging Project")



KEY THEME = BRAIN PLASTICITY
And **DEBATES**

Deadline: **ALL FOUR TASKS** to be completed and
handed in on the
Friday 4th September 2020

Task 1

Complete Mind Maps* of the two Brain Plasticity studies by Blakemore and Cooper (impact of early visual experience) and Maguire et al (taxi drivers)

(*or revision cards or notes, if you don't like mind maps)

Task 2

Complete the questions on the two Biological Psychology studies by Blakemore and Cooper (impact of early visual experience) and Maguire et al (taxi drivers) [for questions, see below]

Task 3

Complete the Key Terms activities for the two Biological Psychology studies by Blakemore and Cooper (impact of early visual experience) and Maguire et al (taxi drivers) [for key terms, see below]

Task 4 Debates

– read the attached debates [end of this document] (conducting socially sensitive research debate and the nature-nurture debate) and then do the following tasks:

1. What are the two sides of the debate in the conducting socially sensitive research debate? [2]
2. See book p173 and p179 – Explain how the two Measuring Differences core studies (Gould, Hancock et al) relate to the conducting socially sensitive research debate [4]
3. What is a real life application of any one study that could be described as being socially sensitive? [5]
4. Outline the “nature” side of the nature-nurture debate [2]
5. Outline the “nurture” side of the nature-nurture debate [2]
6. See book p172 How does the study by Gould illustrate BOTH sides of this debate? Use examples from the study to support your answer (hint – think of Yerkes’ explanations of the three “facts” Boring produced and think of Gould’s criticisms of these explanations) [4]
7. Why are nurture explanations more useful than nature explanations, do you think? [1]

Total = 20

OPTIONAL REVISION ACTIVITY

In your folder you should find a booklet for debates revision which I gave you to fill in – you should have filled in usefulness, ethics and psychology as a science already. You can now fill in the nature-nurture debate and the conducting socially sensitive research debate in that booklet.

Then revise these debates...

Task 2

Questions on the two Biological Psychology studies by Blakemore and cooper (impact of early visual experience) and Maguire et al (taxi drivers)

1. Outline one way in which the study by Blakemore and Cooper (impact of early visual experience) lacks population validity [2]
2. Explain the ethical issues that Blakemore and Cooper would need to address in their study [2]
3. (a) What research method did Blakemore and Cooper use in their study?[1]
(b) Explain one strength of using this research method in this study [2]
4. (a) Suggest **two** ways in which the study by Maguire et al lacks population validity [2]
(b) Explain **two** ways in which the study by Maguire can be said to have good internal (design) validity [2]
5. From the study by Maguire et al, describe one of the functions of the hippocampus [2]
6. (a) What was the dependent variable in the study by Maguire et al (taxi drivers)? [1]
(b) Identify the two techniques used to measure the DV in this study [2]
(c) Why is it a strength of the study that it measured the DV in 2 different ways? [2]
7. Explain why it would be possible to establish the test-retest reliability of the study by Maguire et al (taxi drivers) [3]
8. Explain why the study by Maguire et al (taxi drivers) can be described as a highly ethical study [3]

9. Explain how the core study by Blakemore and Cooper relates to the key theme of brain plasticity [3]
10. Explain how the core study by Maguire et al relates to the key theme of brain plasticity [3]
11. Outline one similarity between the study by Blakemore and Cooper (impact of early visual experience) and Maguire et al (taxi drivers) [3]
12. Outline one difference between the study by Blakemore and Cooper (impact of early visual experience) and Maguire et al (taxi drivers) [3]
13. Explain how the study by Maguire et al into taxi drivers can be located in the biological area of Psychology [3]
14. Explain how the study by Blakemore and Cooper into the impact of early visual experience can be located in the biological area of Psychology [3]
15. Outline one way in which Maguire et al's study might prove to have real life applications [2]
16. Summarise the "story" of the study by Blakemore and Cooper in no more than 200 words [3]
17. Summarise the "story" of the study by Maguire et al in no more than 200 words [3]

Total marks = 50

Grades:

U = 19 and below E = 20 D = 25 C = 30 B = 3 A = 4 A* = 45

TASK 3

Key Terms Activities –

For each of the key terms give a definition AND explain how the key term relates to the study by use of examples from the study

Tip: present your work in a table with the following headings:

<u>Key term</u>	<u>Definition</u>	<u>How this key term relates to the core study (give examples from the study where relevant)</u>

(i) Blakemore and Cooper (impact of early visual experience) - KEY TERMS

BRAIN PLASTICITY
NATURE-NURTURE DEBATE
HORIZONTALLY OR VERTICALLY STRIPED ENVIRONMENT
BEHAVIOURAL CONSEQUENCES
PUPILLARY RESPONSE
STARTLE REFLEX
VISUAL PLACING
NEURONES IN THE VISUAL CORTEX
DISTRIBUTIONS OF PREFERRED ORIENTATION
NEUROPHYSIOLOGICAL CONSEQUENCES

(ii) Maguire et al (taxi drivers) - KEY TERMS

STRUCTURAL MRI SCAN
COGNITIVE MAP
COMPARATIVE STUDIES OF ANIMALS
GRAY MATTER
PHYSIOLOGICAL MEASUREMENT OF VARIABLES
PIXEL COUNTING
VOXEL BASED MORPHOMETRY
SPATIAL MEMORY
SPATIAL NAVIGATION
THE KNOWLEDGE
HIPPOCAMPUS BODY
ANTERIOR HIPPOCAMPUS
POSTERIOR HIPPOCAMPUS
MORPHOLOGICAL CHANGES
CORRELATION
PLASTICITY OF THE BRAIN
EXPERIMENTAL CONTROLS

Information to support TASK 4 – Debates

The CONDUCTING SOCIALLY SENSITIVE RESEARCH DEBATE for the “Psychological themes through Core Studies” exam - Section B

For the exam, you need to be able to:

- Outline the defining principles and concepts of the conducting socially sensitive research debate
 - Use research to illustrate the debate
- Describe and evaluate applications of the conducting socially sensitive research debate
- Explain how the conducting socially sensitive research debate is different from and similar to other debates

SOME DEFINING PRINCIPLES AND CONCEPTS OF THE CONDUCTING SOCIALLY SENSITIVE RESEARCH DEBATE

The debate about conducting socially sensitive research raises the question of whether psychologists should refrain from investigating sensitive topics, where the finding could have a wider and negative impact on groups of people or on society as a whole, or whether psychology investigating such topics is the only way to challenge prejudices or to find out the truth. For example, investigating differences, especially deficits, in people with autism or investigating people with mental health issues, or investigating gender or cultural differences in beliefs or behaviour is socially sensitive as it is important not to stigmatise groups of people or to fuel prejudice against them in wider society. It is important that researchers carefully consider the wider consequences of investigating controversial areas that may cause harm, embarrassment or distress, such as investigating taboo subjects such as sex.

RESEARCH TO ILLUSTRATE THE CONDUCTING SOCIALLY SENSITIVE RESEARCH DEBATE

Freud's case study on Little Hans could be considered to be socially sensitive. People were, and still are, in various degrees disgusted, shocked or embarrassed to consider the implications of Freud's psychosexual theory. Freud's theory addressed two big taboos in society, childhood sexuality and libido and incestuous feelings (albeit unconscious). In investigating this theory Freud asked his friends to observe and interview their young children in order to find evidence for the stages of his Psychosexual Theory of Personality Development, including interest in going to the toilet and in masturbation. This is how he gathered information about Little Hans whom he argued provided clear evidence for the Oedipus complex through his fantasies and his phobia of horse. On the one hand it could be argued that the description Freud gave of children's interest in their bodily functions and sexuality had the potential to upset society, but on the other hand Freud's work did raise some important issues about the unconscious and the powerful motivation of physical pleasure for children, and contributing to our understanding of how the unconscious could influence our behaviour.

Baron-Cohen et al investigated theory of mind in adults with autism and found significant impairment in those with a diagnosis of high functioning autism or Asperger Syndrome, compared with two control groups (normal adults and adults with Tourette syndrome). The study included the use of a newly developed very advanced test of theory of mind, The Reading The Mind In The Eyes Test, where ppts had to assign one of two semantic opposites to say what mental state they could "read" in a black and white image of the eyes and brow area of a face shown to them for three seconds. The test scored out of 25 and those with autism had an average score of 16.3 compared to normal adults' 20.3, and adults with Tourette syndrome 20.4 showing that the impairment in TOM was caused by having autism. Investigating people who have disorders and are noticeably "different" from the norm is a socially sensitive issue in psychology, as drawing attention to people's differences can lead to discrimination or prejudice, and researchers have to be sensitive in their research to ensure that this does not happen.

APPLICATIONS OF THE CONDUCTING SOCIALLY SENSITIVE RESEARCH DEBATE

Unless we challenge our existing ideas and beliefs it could be argued that we would fail to progress. Conducting socially sensitive research pushes the boundaries and raises questions for individuals, groups within society and society as a whole to consider. Freud's ideas about ego anxiety causing neuroses enabled him to develop his therapeutic techniques and to develop psychoanalysis. Freud's treatment was the forerunner of all modern talking cures that are used today with people with mental health issues. Freud's research therefore contributed positively to society as he was the first to suggest that some mental health issues could be helped by the patient talking.

An application based on the study by Baron-Cohen et al's study is that teachers could use the findings from the Baron-Cohen et al study to help plan the curriculum in social skills and social communication for youngsters with autism. If youngsters with autism were given specific training in understanding the thoughts, feelings and mental states of others and how to "read" these in social situations then they could be helped to avoid some of the TOM impairment identified in the adults with autism in the Baron-Cohen et al study.

HOW IS THE CONDUCTING SOCIALLY SENSITIVE RESEARCH DEBATE DIFFERENT FROM AND SIMILAR TO OTHER DEBATES?

This debate is similar to the debate about **ethical considerations** in research, but with a greater emphasis placed on the possible negative implications of the research not just for those participating, but for the group they are chosen to represent or for society in general.

The NATURE-NURTURE DEBATE for the “Psychological themes through Core Studies” exam - Section B

For the exam, you need to be able to:

- Outline the defining principles and concepts of the nature-nurture debate, and of the different positions within the debate
 - Use research to illustrate the different positions within the debate
- Describe and evaluate applications of the nature and nurture explanations of behaviour
- Explain how the nature-nurture debate is different from and similar to other debates

SOME DEFINING PRINCIPLES AND CONCEPTS OF THE NATURE-NURTURE DEBATE

1. Briefly outline the nature-nurture debate in psychology [2]
2. Briefly outline the nature argument from the nature-nurture debate [2]
3. Briefly outline the nurture argument from the nature-nurture debate [2]

The nature-nurture debate was concerned with what causes behaviour or what causes development. At one extreme, nativists saw development as arising from innate factors, from inherited characteristics, all that was important was what you were born with. At the other extreme, empiricists saw development occurring because of experience and learning, so what was important was the environment and experiences that a person grew up and lived in. Nowadays, most psychologists see development differently: they see biological predispositions (nature) as guiding development in certain directions, but experience (nurture) as influencing how that development manifests itself, or to put it another way, our behaviour is the result of nature, modified by nurture. Nature and nurture are seen as interconnected, not as opposing alternatives, and it is the way that they interact which is the focus of interest.

Nature – the nature side of the nature-nurture debate sees behaviour and development arising from heredity and genetics.

nature is the same as: maturation, biology, genetics, inheritance

Nurture – the nurture side of the nature-nurture debate sees behaviour and development arising from experience and learning

nurture is the same as: learning, social learning, situational/environmental, cultural influence, experience

RESEARCH TO ILLUSTRATE THE DIFFERENT POSITIONS WITHIN THE NATURE-NURTURE DEBATE

Possible examination questions:

Outline one piece of psychological research that illustrates the nature argument of the nature-nurture debate in psychology [5]

Outline one piece of psychological research that illustrates the nurture argument of the nature-nurture debate in psychology [5]

Nature

- Baron-Cohen et al's study on adults with autism showed that it was nature, their autism, that caused the adults with autism to experience difficulties reading the mental states of others on the Eyes Task.
- Casey et al's study raises the question of whether we are born destined to be "low delayers" or "high delayers". The difference can be clearly seen in the Marshmallow Test at age 4, and Casey's study, among others, shows the stability of this lack of self-control over time. This suggests that our level of self-control is influenced by our biology, both as children and as adults, and supports the nature argument.

Nurture

- Bandura et al's study on the transmission of aggression demonstrated the importance of social learning in children. This study supports the nurture argument as it showed how observation and imitation is an "in toto" (all at once) way that people learn. The children learned from watching the adult behave aggressively towards the Bobo doll.
- Milgram's study supports the nurture argument as Milgram suggests that two key principles which we have been taught as children, and which have been reinforced throughout our lives, are that we should not hurt others and that we should do as we are told. There is a conflict between these two strongly held beliefs for the Teachers in the study, and for most of them it was the second of these principles, to do as they were told and obey, that they eventually responded to in the study.

Outline how the study by Blakemore and Cooper illustrates the nature-nurture debate [5]

In recent times psychologists have considered an interactionist position in the nature-nurture debate. What this means is that behaviour is considered to be the result of nature modified by nurture. In Blakemore and Cooper's study they showed that the kittens' visual neurons were biologically programmed to prefer either a vertical or horizontal plane. This is the nature part of the kittens' visual experience. The researchers were able to demonstrate that the environment the kittens are raised in will dictate which plane the visual neurons in kittens come to prefer. For example, when a kitten was raised with experience of only horizontal lines in their environment their neurons all tended to prefer the horizontal plane. This is an example of nature being modified by nurture as the environment the kitten was raised in caused their neurons to adapt to only see in the horizontal plane.

APPLICATIONS OF NATURE AND NURTURE EXPLANATIONS OF BEHAVIOUR

Possible Examination Questions

Outline one application of research that illustrates the nature argument in psychology [5]

Outline one application of research that illustrates the nurture argument in psychology [5]

Nature

- Baron-Cohen et al's study on adults with autism showed that it was nature, their autism, that caused the adults with autism to experience difficulties reading the mental states of others on the Eyes Task. Research that has increased our understanding of why people with autism have such marked social difficulties has led to interventions to support children with autism in schools, both to accommodate the difference in their thinking and to help them to develop social skills through specific learning programmes.

Nurture

- Bandura's research suggests that we have to be cautious about what children are exposed to, especially if behaviour we do not want them to imitate is seen as being acceptable or rewarded. This is an argument for censorship of films, games and for the 9pm "watershed" on television which was introduced by the BBC as part of their Family Viewing Policy in the 1970s. Watershed is a geographical term meaning divide and this is the time when the television divides between programmes that are suitable for children and programmes that are unsuitable for children.

HOW IS THE NATURE-NURTURE DEBATE DIFFERENT FROM AND SIMILAR TO OTHER DEBATES?

POSSIBLE EXAM QUESTION:

Explain how the nature-nurture debate is similar to the individual-situational debate in psychology (3)

- The nature-nurture debate is another example of determinism, since it was originally trying to argue that either biology or the environment causes behaviour (hard determinism) and both extremes of this debate left little room for freewill.
- The nature-nurture debate is another example of reductionism, since it was originally trying to argue that either biology or the environment causes behaviour (a single factor explanation). The modern position in psychology, that our behaviour is caused by an interaction of nature and nurture, is more holistic.
- The nature nurture debate is similar to the individual-situational debate since nature is an individual explanation of behaviour and nurture is a situational explanation of behaviour