

ANSWER BOOKLET
LIVRET DE RÉPONSES
CUADERNILLO DE RESPUESTAS

4 PAGES / PÁGINAS



International Baccalaureate
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At the start of each answer to a question, write the question number in the box. / Avant de répondre à une question, veuillez écrire le numéro de la question que vous allez traiter dans la case prévue à cet effet. / Al comienzo de cada respuesta, escriba el número de pregunta en la casilla.



Example
 Exemple
 Ejemplo

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Example
 Exemple
 Ejemplo

3

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1

Localization in the biological approach to understanding behaviour returns to the concept of specific brain areas and parts being responsible for different functions, and therefore influence behaviour.

Different areas of the brain are responsible for different cognitive and behavioural functions. Milner's case study on HM had the aim to determine the effect of the loss of the hippocampus on HM's behaviour.

HM suffered anterograde amnesia due to a surgery removing part of his hippocampus, as he was suffering from seizures. Localization in this case returns to the function of the hippocampus for humans.

Milner used triangulation to determine a holistic conclusion of the responsibility of the hippocampus. He conducted IQ-tests, interviews with HM and family members, as well as different cognitive tests on his memory and general observations of his everyday life.

An MRI was also conducted to analyze which specific brain part and how much of it was removed and damaged.

The results found that HM's short term memory was severely impaired as he was not able to form any short term and hence no long term memories. He had problems with his declarative memory, referring to facts and events, but he was able to form new ^{procedural} ~~procedural~~ memories,

of different habits and unconscious motor functions. This study demonstrates localization as it indicates the function of the hippocampus in short term declarative memory formation. It also demonstrates how the hippocampus is not responsible for procedural memories.

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- 2 -

2

One study investigating reconstructive memory was conducted by Loftus and Palmer. Loftus and Palmer think that memory is highly unreliable and wanted to test this theory with the aim of finding the influence of leading questions in estimation of speed of a car. Reconstructive memory refers to the idea that memory is open to distortion but refers to the ability to recall information.

In their experiment Loftus and Palmer showed a group of students a video of different car accidents. The videos were shown to the participants individually on the computer screen.

All participants were shown the same set of videos. After the participants viewed the video they had to sit in an interview and fill out a questionnaire. All participants were asked the same question, but only the critical verb in the question was changed.

The critical verbs included: "hit", "smash", "collide" and "bump". "Smash" was considered the most extreme verb. The nature of the question stayed the same but the verb was changed. The participants were asked to estimate the speed of the car.

The results showed that the participants estimated the speed of the car according to and based on the critical verb they received. The highest estimation of speed was with the critical verb "smashed" and the lowest was with the verb "bump".

This study demonstrates reconstructive memory by demonstrating that memory is not reliable and open to distortion. Although it does not outline or demonstrate necessarily why, or how.

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- 3 -

3

Cultural dimensions were compared by Hofstede who described 6 main cultural dimensions in which different cultures could be categorized and compared to. One such cultural dimension is individual vs. collectivist. According to Hofstede individualistic cultures are very self oriented, value uniqueness and self actualization along with personal success. Collectivistic cultures on the other hand value social harmony, collaboration, are scared to lose face and are more prone to work for their community. One study conducted by Berry ~~to~~ ~~investigate the effect~~ on individualistic vs. collectivistic cultures had the aim to investigate the effect of this cultural dimension on conformity.

He conducted a replica of Asch's study of conformity with 3 different cultures Rural and urban Scots, Inuits of Canada and Temne of Sierra Leone. He asked participants to match a line with 4 other lines according to length. In some trials he told the individual the ~~incorrect answer~~, ~~that would be the~~ answer most people from their culture chose. This answer was incorrect on purpose.

The Temne of Sierra Leone conformed most to the false answer, despite their own judgement which demonstrates a collectivistic culture. The Inuits conformed the least, being individualistically oriented, and then the Scots. This study demonstrates the differences between individualistic and collectivistic cultures and provides evidence for the ~~ideas~~ ~~ideas~~ ^{ideas} compared by Hofstede. It shows how collectivistic cultures are more loyal to their own country and more conformable whereas individualistic cultures are more focused on individual success.

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5

Biases are mental representations that guide our behaviour and influence our decision making and therefore thinking processes. There are many different types of biases but two of them are the Peak-end-Rule and Framing Bias. Biases are discussed in the cognitive approach to understanding behaviour and therefore focuses on ~~external observations~~ ^{observations} of behaviour which reflect our mind. It is based on the theory that our cognitive processing is reflected by our actions, therefore ~~many~~ studies on biases aim to outline our decision making abilities based on the influence of different biases. This essay will discuss the peak end rule bias as well as framing bias and other reasons why and how they influence our thinking and decision making and therefore human behaviour.

Peak-end-Rule bias states that our decision will be influenced by what happened at the end and at the peak of an experience, rather than evaluating the experience as a whole. Kahnemann conducted a study with the aim to test the effect of peak end rule on decision making. Decision making refers to our ability to evaluate and interpret information that is given to us.

Kahnemann used a group of psychology university students for his experiment. There were two conditions and all participants had to do both. The students had to hold their hand in cold water. In condition one the participants held their hand in 10 degree cold water for 60 seconds. In condition 2 the

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Students had to hold their hand in 10 degree cold water for 60 seconds and ~~then~~ were then allowed to place their hand in slightly warmer, but only 1 degree warmer, water for another 30 seconds. After having completed both conditions the students were asked which condition they would ~~not~~ choose if they had to repeat the experiment.

The Results showed that most students said they would want to repeat condition 2. This clearly demonstrates the peak end bias as the students evaluated the peak, which was the pain of cold water and the end, which was the slightly warmer water, which was less painful. Even though in condition 1 they had to hold their hand in cold water for overall less amount of time. The final decision of the student was influenced by the peak and end of the experience and not the overall outcome.

This study by Kahnemann demonstrates the bias, but at the same time lacks ecological validity, due to the fact that it was conducted in a lab. The decision made does not ~~actually~~ demonstrate decisions made in the real world. Therefore it was quite artificial as the behaviour did not occur in a natural setting. There are also certain ethical considerations that can be taken into account due to the fact that the participants suffered minor physical harm due to the exposure to pain. Although the participants were briefed and debriefed and gave consent, therefore the issue of ethics is not a very large breach in this case.

- 2 -

Framing bias suggests that people evaluate and form a decision about information based on the way it is presented. It is said that information in this case can be presented in a negative or positive frame. In most cases the outcome is the same, just the way the information is presented is different. Tversky and Kahnemann ~~did~~ conducted a study to ~~test~~ test the effect of framing bias on decision making in a crisis simulated situation.

Different participants were either presented with a positive frame of the information or a negative frame. They were given the scenario of a crisis situation where a deadly epidemic has infested the earth. They had to choose between 2 options. In positive frame option A said that 400 will survive and option B said that there is a $\frac{1}{3}$ probability that all survive but $\frac{2}{3}$ probability that 600 die. In negative frame in option A 600 will die in option B $\frac{1}{3}$ probability that all die and $\frac{2}{3}$ that 600 will survive.

The results indicated that individuals presented with positive frame were more likely to choose option B and in negative frame people were more likely to choose option A. ~~as~~ Positive frame encouraged gambling whereas negative frame people were more certain. The outcome at the end of ~~both options is negative~~ both positive and negative frame was the same, yet the frame in which it was presented influenced the final outcome of the decision.

This experiment from Kahnemann and Tversky demonstrates framing bias, but yet again the experiment itself is very artificial. How are these positive and negative frames presented in the real world?

Due to the lab experiment this does not reflect behaviour in a naturalistic environment. How can we really understand framing based on such a low ecologically valid experiment of a human epidemic?

Does this really reflect our everyday ~~choices~~ decision making?

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Overall both the peak-end Rule and the framing bias demonstrate how biases can influence our thinking and decision making, but it is also important to discuss and evaluate the theory behind the concept of biases themselves and in larger the cognitive approach.

First of all we have to consider how biases are even formed, and why they are formed in our brains. As we humans are active cognitive processors of information, we also like to simplify the world around us, which could indicate the reason biases are formed, yet none of the two biases mentioned above give a valid explanation of this reason. Biases can also be connected to the dual process model, referring to our System 1 and System 2 in decision making. It is said that biases are apparent in our fast, intuitive prone to error System 1 and not our slow System 2 which is more analytic. Yet the dual process model is a very reductionist approach and does not really outline how system 1 and system 2 work together, therefore it also does not offer a clear explanation of biases either.

Biases demonstrate how our decisions are influenced by them, by evaluating the outcome of our decision, but it does not outline or demonstrate how the decision was formed. If we don't know how it was formed, we also ~~cannot~~ cannot know for certain what it was influenced by. We have to ask the question what exactly influences a bias? Are different biases influenced by different things? How does our environment influence our cognition and therefore the bias? Are both peak end rule and Framing Bias influenced by our culture, just like stereotypes and Schemas can be? It is also interesting to consider to what extent Schemas, Biases and Heuristics are connected in forming our decision. What else can influence our decision besides Biases? ~~What~~ Heuristics are said to shape but not directly influence biases. What is the role of emotion in biases? Emotion is said to influence our thinking and decision making.

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demonstrated by Bechara and De Manno, but how exactly is it connected to biases? Can it also be related to the Somatic marker hypothesis?

Based on the discussion above it can be seen that biases, for example peak end rule and framing influence our thinking and decision making. It is a theory made in the cognitive approach which deals with our mind influencing our behaviour.

Even though Biases influence our behaviour it is difficult to measure to what degree and how exactly biases work, are formed and are influenced by and influencing our decision making and thinking.

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