

ANSWER BOOKLET
LIVRET DE RÉPONSES
CUADERNILLO DE RESPUESTAS



International Baccalaureate
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4 PAGES / PÁGINAS

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

27

27

Example
 Exemple
 Ejemplo

3

3



5

Thinking is referred to as the process of retrieving and altering previously stored information. Decision-making is closely related to thinking because it is required in order to make choices. It is often argued that humans have two distinctive modes of thinking known as 'system 1 & system 2'. System 2 requires effort and deep cognitive analysis whereas system 1 is quick intuitive & effortless. Thus, when thinking in system 1 we are prone to errors known as heuristics, which are mental shortcuts that focus on particular aspects of information and ignore others, thereby leading to cognitive biases.

One well known cognitive bias is the Anchoring bias. This is when people rely too heavily on the first piece of information given, when making decisions. Therefore when we arrive at conclusions, our answers are often based on information previously given.

Strack & Mussweiler studied this when aiming to investigate the effects of anchors on age estimates. In their study, university students were

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given a survey in which one question asked if Gandhi died before or after a given age. Participants either received a high plausible/inplausible or a low plausible/inplausible age. The next question then asked participants to give an exact estimate of Gandhi's age of death. Results demonstrated that age estimates for the plausible ~~anchors~~ anchors were heavily based on the anchors received. Even the implausible anchors influenced age estimates to some extent, for example age estimates were higher when the anchor was 140 years than 9 years.

This study demonstrates and supports the existence of the Anchoring bias given that age estimates were based off of the age received. Surveys are designed to be ~~finished~~ completed quickly & easily, thus it is likely that the students were already thinking in system 1 and prone to cognitive errors such as the Anchoring bias. The study was done in an artificial setting therefore we cannot be sure that the Anchoring bias occurs in real-life situations, however there is significant evidence that we are susceptible to the Anchoring bias when arriving at conclusions.

Another noteworthy cognitive bias is the Framing effect. This occurs when we react differently to situations based on the way they are presented or "framed". As humans, it is natural for us to better accept positively phrased information, than negatively phrased information. Different reactions and decisions can commonly be observed when we are given options regarding potential loss and

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potential gain.

A study done by Tversky & Kahnemann cleverly demonstrated this, in which the researchers aimed to investigate the influence of positive & negative frames on thinking and decision-making. All participants were given the same scenario in which 600 people were at risk of death. The participants were then split into either a positive or negative condition and asked to choose a program for these 600 people. In the positive condition, the options were A → 200 people saved or B - chance of all people saved & chance of no one saved. On the other hand, in the negative condition the options were A - 400 deaths or B - All deaths or chance of no deaths. It is important to note that both options were the same but phrased in terms of loss or gain.

The results showed that those in the positive condition were more likely to choose option A whereas those in the negative condition were more likely to choose option B. When phrased positively, participants opted for certain survival, whereas when phrased negatively they avoided certain death and were more risk averse, opting for option B.

This study demonstrates that even though information can convey an identical message, the way in which it is framed can have a drastic influence on decision-making. The framing effect thereby has important implications as we can better understand

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the ways in which information is shared. For instance, how a business markets a product or how negative news stories are more prominent because they draw more attention.

In summary, when thinking and making decisions fast and intuitively in system 1, we are inevitably prone to mental shortcuts and cognitive biases.

The Anchoring bias explains why we settle on and base decisions on prior information. On the other hand, the framing effect explains why we react differently to situations based on the way they are framed. ^{This implies that} ~~implying~~ we should be more careful especially when making critical decisions so that we are less prone to cognitive biases that ^{can potentially} limit our thinking and understanding.

$$2, 3, 3, 2, 2 = 12/22$$

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3

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1

Localization in the biological aspect of psychology, refers to specific parts of the brain being responsible for specific cognitive processes and functions. This is often referred to as 'localization of function'. One revolutionary example of localization of function is the belief that the hippocampus in the brain plays a crucial role in converting information from short-term memory to a long-term memory store. The famous case of HM is what initiated and essentially supported the theory of localization. Shortly after having his hippocampus removed, HM began to suffer from anterograde amnesia in which he could not convert information from short-term memory to long-term memory. An MRI scan was performed on HM in order to examine the state of his brain. It was then discovered that HM's hippocampus was missing and this was most likely the underlying reason for his anterograde amnesia. Therefore, the theory of specific parts of the brain being responsible for different cognitive processes and functions can be supported by the fact that the hippocampus most likely plays a significant role in transporting information to long-term memory stores.

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2

Reconstructive memory is the theory that memories aren't simply played back like a video recording, and can be heavily influenced by post-event information. Loftus & Palmer tested this theory when they aimed to investigate the influence of leading verbs on an eye-witnesses estimate of speed. In their experiment, participants watched a video of a car crash. Afterwards, participants were asked to fill out a survey in which one of the questions asked them to estimate the speed of the car. The independent variable was the intensity of the leading verb used, for example - smashed, hit, bumped, contacted, and the ~~the~~ dependent variable was their estimation of speed. The findings demonstrated that the more intense verb given, the higher the estimates of speed were. For instance those who received "smashed" estimated speeds around 40 mph whereas those who received "contacted" estimated much lower speeds around 30 mph. Therefore, this study underlines how memory can be manipulated by post-event information such as leading verbs and cause memory to reconstruct.

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3

Cultural dimensions explain and help us to understand cross-cultural differences that occur globally. They help us understand cognitive as well as behavioural differences because these are often heavily influenced by cultural and social norms. One frequently studied cultural dimension is collectivism versus individualism. Collectivism versus individualism explains the extent to which people in cultural

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contexts are integrated into groups. Collectivist cultures often value social harmony and stress the importance of interdependence. On the other hand, individualistic cultures encourage independence, uniqueness, and expressing one's own opinion. Berry et al investigated the level of conformity between collectivist and individualistic groups. This was done using the "Asch Paradigm" in which participants had to choose two lines (out of many) of the same length but were tricked into thinking the majority of those within their own culture chose an incorrect answer. The findings showed that people were more likely to conform by accepting "the majority's" incorrect answer if they were part of a collectivist culture, and significantly less likely to conform if they belonged to an individualistic culture. This conveys how the values within a culture can influence behaviour, especially collectivist vs individualistic cultures as one involves tight-knit social groups and the other encourages independence.

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