

ANSWER BOOKLET
LIVRET DE RÉPONSES
CUADERNILLO DE RESPUESTAS



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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

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Example
 Exemple
 Ejemplo

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1

Research has shown that different parts of the brain play a key role in certain behaviours or cognitive processes. Through localization of function attempts have been made to evaluate which parts of the brain fulfill what functions. To say that each part of the brain ~~was~~ is responsible for one function only would be an oversimplification. However, some parts of the brain have been associated with certain functions, even though this does not mean behaviours are caused by one part of the brain only. An example of a study of localization of functions is Maguire.

Maguire's aim was to see if spatial memory could be related to any parts of the brain. MRI scans which produce three dimensional images of the brain were done with ^{right-handed} 13 London taxi drivers. These scans were compared with MRIs of 50 other right-handed males. A correlation between the years of experience and the size of the posterior hippocampus was found. This suggests that due to the neuroplastic nature of the brain the hippocampus changed. It can be assumed that spatial memory is related to the posterior hippocampus.

MRI scans are a very reliable, as they cannot be affected

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by demand characteristics. However, as this is a quasi-experiment no independent variable can be controlled, making it impossible to establish a clear cause and effect relationship. For localization of function this means that Maguire's study cannot be used as proof for the concept, as extraneous variables could not be controlled and there is no way to be certain

that the size of hippocampus changed as a result of ^{increased} spatial memory. Nevertheless, the study - along with other research - suggests that certain parts of the brain are responsible for specific functions. The brain is very complex and many of its functions are caused by ~~at~~ various parts of the brain. Maguire's study suggests that to a certain extent functions can be localized and the posterior hippocampus may be responsible for storage of spatial memory.

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2

Reconstructive memory is a theory that argues that memory is an active process and that every time a memory is recalled it may be altered slightly based on the context it is recalled in. Loftus and Palmer conducted a study to test if memories are reconstructed or fixed and not prone to change.

Loftus and Palmer's aim was to see if the use of

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certain words could have an impact on the way participants remembered certain events. Two similar experiments were conducted. Participants were shown several videos including one of two cars colliding. In experiment one they were given a questionnaire asking them - among other questions to prevent participants from guessing the researcher's intentions which may lead to demand characteristics - how fast the two cars were at the moment of the collision. However, five different verbs were used that were different levels of "extreme". For instance "contacted" was the mildest word, whereas "crashed" was the strongest. In the second experiment participants were asked to return a week later and were given a questionnaire that asked them - again, among "smokescreen" questions - if they had seen any glass. Again different verbs were used. The researchers found that the more "extreme" the verb had been the higher the estimated speed was and the more likely the participants were to report having seen broken glass. This supports the theory of reconstructive memory. It seems that the way questions were phrased changed the memory of participants, suggesting memories ~~are changeable~~ can change easily.

As this was a lab experiment extraneous variables were controlled. This is a strength of the study. Furthermore, as there was an independent variable - the verb used - and a dependent variable - the estimated speed or whether participants saw broken glass - a clear cause and effect relationship can be established. However, a limitation of this experiment is that there is a low ecological validity. The situation ~~is~~ⁱⁿ a lab is highly artificial. So, in conclusion while Loftus and Palmer's

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Study does support the theory of reconstructive memory you cannot be sure if ~~past~~ people would ~~believe~~ recall memory the same way outside of the controlled conditions in a lab.

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3

Cultural dimensions are certain behaviours or cognitive processes that are influenced by culture. As the socio-cultural surrounding someone lives in strongly affects people ~~there~~ there are many cultural dimensions - some of which we are not even aware of. For instance memory can be influenced by ~~our~~ culture. This can be seen by comparing collectivistic and individualistic cultures. In collectivistic cultures, like China, more emphasis is put on the importance of the group. In individualist cultures people tend to place their own emotions and achievements above those of others. This ~~exp~~ even goes as far as affecting memory. In collectivistic cultures flashbulb memories are less likely to occur in situations of great personal ^{importance} ~~importance~~. In individualistic cultures flashbulb memories mostly occur when emotion and personal significance is ascribed to the event.

A study that can be used to illustrate this is Ruskofsky. The ~~main~~ aim of the study was to compare cultural dimensions in the form of memory from individualistic cultures and collectivistic cultures. Participants from Germany, the US, the UK, Turkey and China were given five minutes to recall as many important ~~past~~ events as possible. They were also asked to rate personal

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importance and vividness of the memories. Questions also included when they had first heard about the event and how often they had talked about it. It was found that the creation of flashback memories was less likely to occur based on personal importance for participants of collectivistic cultures.

This study suggests that ~~the cultural dimension~~ of memory is strongly affected by culture. There are, however, some issues with cultural dimensions. While some clear trends have been observed testing whether certain behaviours are actually caused by culture and few can be considered cultural dimensions, it is for example not clear how long someone has had to have lived in a country to adapt to cultural dimensions. It is also not easy to control this in participants when conducting research. Furthermore with memory as a cultural dimension there is the issue of memories being personal. There is no way to tell if someone is being honest or how they define vividness of memories. Due to memories being personal and hard to generalize, cultural dimensions are hard to investigate. Nevertheless, it can be said that culture does affect how we remember events.

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Pheromones are chemicals that have been observed in some animals. ~~In~~ In contrast to neurotransmitters and hormones these chemicals are exchanged between animals, usually of the same species. They have various functions, for instance they can be used as a warning ~~from~~ by mice when predators are near. Pheromones have been subject of research and discussion as it has not yet been proven whether ~~pe~~ pheromones exist in humans.

There have been some studies to suggest that pheromones do play a role in attraction, including Wedekind and Zhou et al.

Wedekind wanted to see if pheromones would have an effect on woman's preferences in men. For the experiment men were asked to sleep in the same shirt four nights in a row. Women were then asked to come in and rate how pleasant they found the smells of the T-shirts.

Genetic testing was done and showed that women tended to be more attracted to the smell of males whose MHC genes were different than theirs. MHC genes code for the ~~to~~ immune system and if MHC genes of partners are different their children tend to have stronger immune systems. Wedekind concluded that pheromones affected women in their preferences in order to ensure healthy offspring.

This study seems to suggest that pheromones may exist. However, there are several problems with this. As this was a lab experiment conditions were relatively ^{well-} controlled. There was few attempt to eliminate extraneous variables by setting up ~~the~~ regulations for the men; such as not to eat spicy food. Nevertheless,

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it was not possible to control all of these variables as during the time ~~of~~ the men wore these shirts conditions were out of the researcher's control.

Furthermore there is a limitation in the study in terms of the effect of pheromones. While the experiment does seem to ~~pr~~ show that smell has an effect on attraction this does not necessarily mean this behaviour is caused by pheromones. A study that tried to evaluate the effect of a chemical that may be a pheromone is Zhou et al.

Zhou et al wanted to test what effect Androstadienone a substance that is assumed to be a pheromone would have on behaviour. The sample consisted of homosexual and heterosexual men, and homosexual and heterosexual women. All participants were shown videos of a figure without any typical "male" or "female" features. However, there were two conditions; in one the smell of cloves was spread - the control condition - and in the other this smell was mixed with Androstadienone, a substance found in male sweat. The participants were asked to identify if the person they were observing was male ~~or~~ or female. It was found that homosexual men ~~or~~ and heterosexual women identified the person as male, but there was no clear reaction from homosexual women and heterosexual men. Zhou et al's study suggests that Androstadienone is a pheromone that is related to attraction to males.

A strength of the study is that in contrast to Wedekind's study there was a chemical that potentially is a pheromone that was tested. This means the ~~option~~

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possibility that this is based on smell only is not as high. However, in the study the smell of the substance that was hypothesized to be a pheromone was ~~was~~ emitted in unnaturally high doses. It is unclear whether the amount that is naturally emitted is strong enough to be detected by human olfactory ~~re~~ receptors. In addition the study was replicated recently and researchers failed to recreate the same results.

The topic of pheromones remains a controversial one. While there are studies that show that behaviour such as attraction is influenced by smell there are limitations to these studies. Wedekind, for instance, mainly suggests that attraction is related to smell not pheromones in particular. Even Zhou et al that try to test a potential pheromone is limited, as the amounts the participants were exposed to were unnatural and replications of the experiment showed different results. Even if pheromones were proven to exist and have an effect on attraction it would be reductionist to say this behaviour is only caused by pheromones. In conclusion it can be said that studies like Zhou et al and Wedekind support the possibility that pheromones exist. However, more research has to be done to support this theory.

$$1, 3, 4, 3, 2 = 13 \frac{1}{22}$$