

ANSWER BOOKLET
LIVRET DE RÉPONSES
CUADERNILLO DE RESPUESTAS

4 PAGES / PÁGINAS



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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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A. 1.

One of the principles of the biological level of analysis is that there are biological correlates of behaviour. Localisation of function is precisely the theory that argues that certain psychological and cognitive processes are associated with particular brain structures. An example of localisation of function is the role of the hippocampus in the encoding of memories related to spatial navigation, as studied by Maguire (2000).

Maguire et. al. had the aim of studying the difference between the hippocampus of taxi drivers and people who did not drive taxis. A sample of 16 right handed male London taxi drivers was selected as the sample. The sample included a range of ages of drivers who had completed their training (known as "The knowledge") and had had their license for at least 1.5 years. Researchers hypothesised that their hippocampi would be in some way different to those of non-taxi drivers because of their extensive training and their use of spatial memories and navigational skills, which they hypothesised were related to the functions

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of the hippocampus. They scanned participants' brains in an MRI and used pixel counting and voxel based morphometry to measure hippocampal volume and density of grey matter. They compared taxi drivers' scans with those of 50 right handed males who did not drive taxis. The scans for the control group were taken from an MRI database.

Researchers found that taxi drivers had significantly larger posterior hippocampi than males in the control group and significantly smaller anterior hippocampi. In addition, they found that the volume of the right posterior hippocampus correlated with the amount of time spent as a taxi driver. The researchers were, therefore, able to conclude that the hippocampus, and more specifically the posterior hippocampus is involved in the ~~retrieval~~ encoding and retrieval of spatial memories. They were able to establish a correlation and a relationship between a particular structure of the brain and a specific cognitive function, as predicted by the theory of localisation of function.

A. 2.

One of the principles in the cognitive level of analysis is that humans are not passive receivers of information, but rather active information processors. This ~~can result in~~ suggests that cognitive processes like memory are active processes that are influenced by previously learned information and schemas and that our memories are, therefore, not exact snapshots of a particular

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event. Our memories are reconstructive in nature. Loftus and Palmer (1974) carried out a study on reconstructive memory. The aim of the study was to investigate whether leading questions would influence eyewitness' memories of a car crash when asked to estimate the speed of the cars involved.

Loftus and Palmer (1974) selected a sample of 45 university students who were shown seven films depicting car accidents. The duration of the films ranged from 5 to 30 seconds, and all films were obtained from drivers' driver's education films. Participants were then asked to write a description of the video they had just seen. Participants were then asked to complete a questionnaire that included one critical question, which asked for an estimation of the speed of the cars involved in the accident. The independent variable was the verb used in the question. Nine participants were asked "About how fast were the cars going when they smashed each other?". The verb "smashed" was replaced for "contacted", "collided", "hit" and "bumped" in the other experimental conditions, which also had nine participants answering the question. The dependent variable was the speed estimate given by each participant in each of the 5 experimental conditions. Researchers hypothesised that, because memories are reconstructive, the verb used in the critical leading question would bias the participants' speed estimates. The verb "smashed" was supposed

to activate schemas related to a more ~~severe~~ severe car accident as opposed to verbs like "hit" or "contacted". This schema activation would bias participants' memories of the accident.

As predicted, participants in the "smashed" condition gave higher speed estimates. The mean speed estimate in this condition was 40.8 mph. The lowest mean ^{speed} estimate was 31.8 mph in the "contacted" condition. ~~After~~ Loftus and Palmer (1974) therefore shows how leading questions that suggest to a participant which answer is desired activate schemas that can influence memory. This is the result of memory being reconstructive.

Cultural dimensions are trends or patterns of behaviour within a culture that are influenced by the attitudes and beliefs of that particular culture. An example of a cultural dimension is collectivism versus individualism. It describes the relationship between the individual and the group in a cultural context.

In collectivistic cultures like Chinese culture, the individual is determined by group membership and shared values. Privacy and individuality are not seen as essential, and all efforts are directed towards the well-being of the larger community. In contrast, individuality is highly valued within individualistic society, and

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A. 3

personal initiative and well-being is seen as an important priority. People are encouraged to stand out from the crowd and to pay particular importance to their personal experience and feeling.

The differences between collectivistic and individualistic cultures is reflected in people's behaviour and cognitive processing of the people from that culture. Kulkafsky et al. studied the difference in flashbulb memory formation and prevalence in collectivistic and individualistic cultures. The sample consisted of 234 male participants from either China, Turkey, the UK, the US or Germany. Participants were asked to recall as many public events as they could, which had occurred during their lifetime and at least 1 year before the experiment. These lists of events were used to create questionnaires that included questions similar to Brown and Kulik's original questionnaires in their investigation of flashbulb memories. In addition, participants were asked questions that were aimed at assessing the level of personal, national and international importance attributed to the events as well as their emotional significance for the participant.

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Results showed that ~~the~~ ~~is~~ national importance predicted flashback memories in both individualistic and collectivist cultures. However, personal significance was less of a predictor of flashback memories in collectivist cultures than in individualistic cultures. Results reflect the fact that in collectivist cultures the personal relevance and emotional significance of an event for an individual is less relevant than national importance. This, however, was not observed in ~~collectivist~~ individualistic cultures, as predicted by the cultural dimension.

The cultural dimension of collectivism vs. individualism, which was first identified by Hofstede in his theory of cultural dimension, is therefore useful in predicting the behaviour of individuals in such cultures.

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B 4.

Pheromones are chemical messengers released into the environment by animals, which can influence the behaviour and physiology of others of its own species. In animals, two types of pheromones exist: primer pheromones and signalling pheromones. Primer pheromones produce long term physiological changes such as hormonal effects, whereas signalling pheromones ~~produce~~ ~~to~~ trigger rapid behavioural changes such

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as mating. No pheromones have been isolated in humans, but research has been carried out into the possible existence of human primer pheromones. This research, however, is controversial, and it poses many questions ~~on~~ the theory of pheromones influencing human behaviour.

One of the main issues with research into pheromones is the difficulty in isolating and taking physiological samples of a substance that could be considered a pheromone. This is one of the main issues with McClintock's study on the influence of pheromones on menstrual synchronicity. She studied menstrual synchronicity in a sample of 135 female students living in a college dormitory. She asked participants to fill in questionnaires that asked their onset dates of menstruation. She found synchronicity in the onset dates of menstruation between roommates and close friends over time. She did not, however, obtain any physiological samples that would allow researchers to determine exactly which chemical is having a pheromonal effect. In addition, the study was found to have very low reliability as neither Trevathan et al. nor Schank et al. were able to replicate their findings in ^{two studies of} 29 lesbian partners ~~or~~ or 186 Chinese students in a college dormitory, respectively.

Studies like McClintock's, which haven't been able to provide reliable results or ~~physiolo~~ ~~to~~ determine actual human pheromones suggest that these chemicals are, in fact, not secreted by humans as a form of communication with others of the same species.

However, research into the effect of human pheromones on human behaviour is not that simple, as other studies have been able to isolate potential human pheromones. For instance, Zhou carried out a study on the effect of androstadienone and estratetraenol on participants' perception of a stick figure being either ~~was~~ female or male.

Androstadienone is a chemical found in male semen and sweat, while estratetraenol is found in female urine. Participants were 24 heterosexual men, 24 heterosexual women, 24 gay men and 24 lesbian and bisexual women. Participants were asked to watch stick figures on a screen and determine whether the figure was male or female while being exposed to either the smell of cloves, the smell of cloves mixed with androstadienone or the smell of cloves mixed with estratetraenol. All participants were exposed to the 3 smells, ~~in order of~~ by being exposed to each one in one of 3 consecutive days. The study was, therefore, a repeated measures design, and the smells were also counterbalanced. These two characteristics of the study ^{minimise} ~~control~~ participant variability and control for order effects. This makes the ~~sto~~ experiment highly standardised and potentially more appropriate for the study on the effect of pheromones than the qualitative approach of McClintock's questionnaires. Zhou's experimental set up actually exposed participants to two potential pheromones to measure their behavioural effects.

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The results of Zhou's study were that androstadienone biased gay men and heterosexual women towards perceiving the figures as more masculine. Exposure to estratetraenol biased heterosexual men towards perceiving the figures as more ~~masculine~~ ^{feminine} but had no significant effect on homosexual and bisexual women.

The results suggest that androstadienone and estratetraenol are potential pheromones that influence human behaviour by communicating gender in a sex specific manner. It suggests that specific chemicals can be isolated and that exposing participants to these substances will ~~produce~~ ^{stimulate} a behaviour that can be measured as a way of determining responses to pheromones. There are, however, several limitations to this study that make its ~~results~~ ^{conclusions} questionable.

First of all, there was no effect of estratetraenol in one of the groups of participants, and ~~it's not~~ it is not clear why, as pheromones should have had the same effect on this group as in

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the group of heterosexual males. In addition, the task ~~was~~ of identifying a stick figure on a screen as either male or female was highly artificial and lacked mundane realism. Researchers argued that the pheromones were signalling gender information, but that is hard to determine, and the task proposed was possibly not the best measure of the behaviour, thus lowering internal validity of the study, as there is no clear explanation of how the measure of the dependent variable relates to the independent variable.

Finally, there is a fundamental problem in the procedure of the experiment that doesn't reflect how pheromones would ^{really} influence human behaviour. The levels of pheromones that participants were exposed to exceeded the levels that humans ~~were~~ ^{would} be exposed to in a potentially ^{natural} pheromonal response. However, even if the levels of pheromones in the experiment reflected the natural exposure to these chemicals, it is still unclear how these would be detected by humans.

Animals that use pheromones as signals for communication with others of their own species detect these chemical chemicals with the help of the vomeronasal organ (VNO). This VNO is part of the auxiliary olfactory system, and it is not present in humans. It is therefore unclear whether pheromones would have an effect on human behaviour or whether they would go undetected, even if we were able to identify

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and isolate specific human pheromones.

However, some suggest that the VNO is not really necessary to trigger a behavioural response to pheromones. Hyatt argues that animals can also detect these chemicals with their main olfactory system, and this could be the way pheromones work in humans too.

There is, therefore, still a possibility for the discovery of human pheromones and their effects on behaviour, and a more recent study by Doucet opens the door to more possibilities for research into human pheromones. Doucet carried out a study on the role of areolar gland secretions in influencing suckling behaviour in 3-day-old infants. Infants were exposed to 7 secretions including areolar secretions, cow milk, formula milk and vanilla, and their suckling behaviour and breathing rate in response to these secretions was measured.

Results showed that infants only began suckling when exposed to areolar gland secretions, ~~also~~ and they also had a higher breathing rate when exposed to these substances. Doucet argued that these areolar secretions act as pheromones by triggering a chain of reactions that lead to the progressive establishment of a bond between mother and child.

Therefore, although initial research was unable to clearly identify human pheromones or was unable

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to ~~accurately measure~~ ^{take} valid measurements of behaviour in response to pheromonal exposure, more recent studies like Doweit et al. provide stronger evidence for the potential role of primer pheromones in humans, which could be detected by the main olfactory system instead of the VNO used by other animals. There is, however, a need for more research and exp that established the reliability of findings like Doweit's, as this is still quite an uncertain and controversial area of research.



$$2, 5, 6, 5, 2 = \frac{20}{22}$$

