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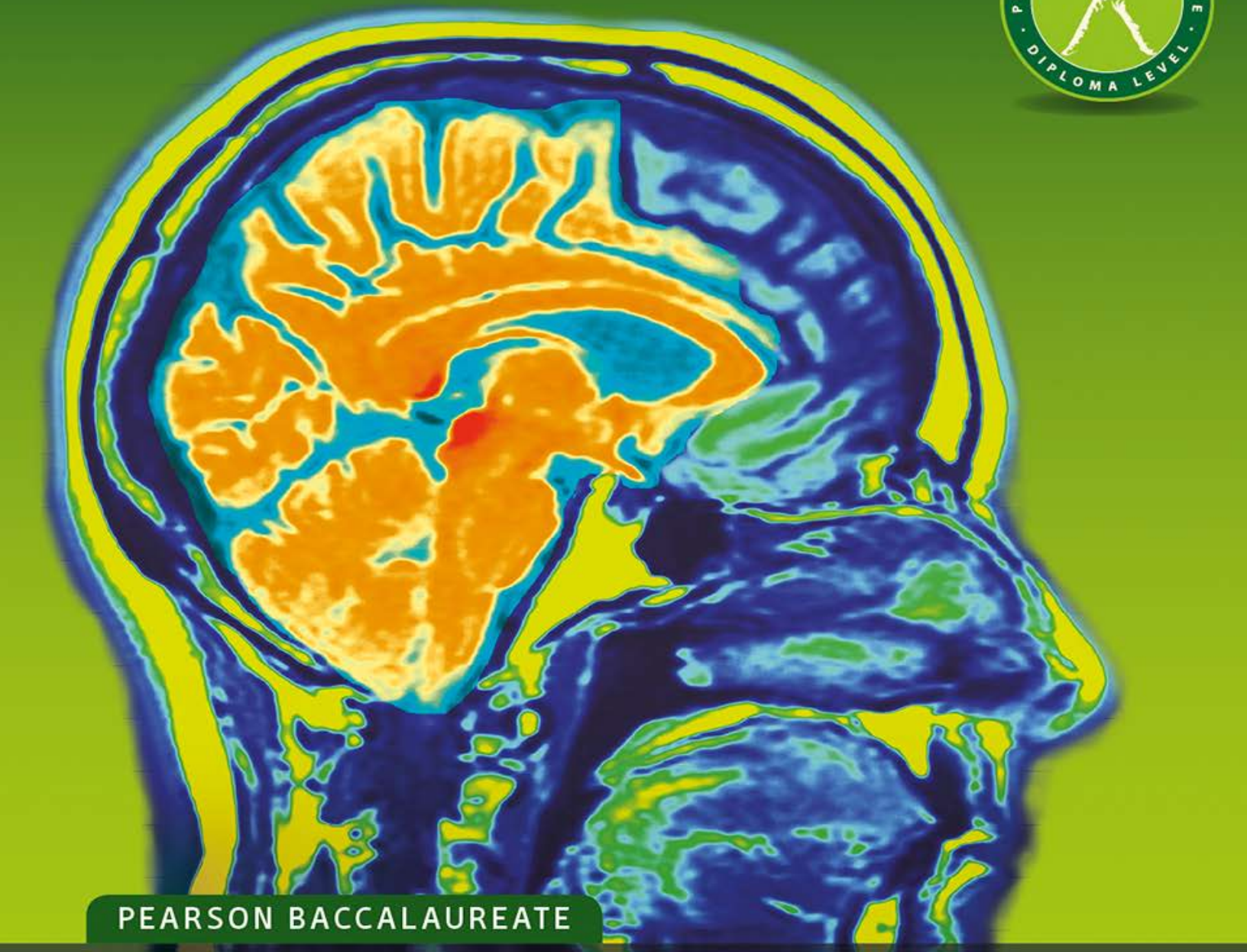

PEARSON BACCALAUREATE

WORKSHEETS

Psychology

ALAN LAW • CHRISTOS HALKIOPOULOS • CHRISTIAN BRYAN

Supporting every learner across the IB continuum

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Worksheet 1.1

Guide for evaluating research: 12 important questions

Consider standard methodological issues

1 What method was used (experiment, questionnaire, observation, interview, case study, correlation, etc)? Check for strengths and weaknesses of the method in general.

Consider reliability

2 How reliable are the measurement instruments used? For example, with experiments, check how the dependent variable was measured; for questionnaires, consider whether the questions are an accurate way to collect responses from participants?

3 Was more than one researcher or observer used? Do we know if their judgements are similar?

4 Was the research done more than once with participants? Is this possible? Is the study replicable?

Consider internal validity

5 Did the researchers really measure what they wanted to measure?

6 Did the researchers try to eliminate extraneous variables or could factors such as time of day interfere with the results?

7 Are there demand characteristics: did participants know what the nature of the research was, and could they have changed their behaviour according to what they think the researcher was interested in?

8 Is there any possibility for researcher bias: did the way researchers conducted the research help them get the results they wanted?

Consider external validity

9 Was the sample used in the study appropriate? Can we generalize from this sample to the intended population? Consider culture and gender.

10 Was the location of the research artificial? Did the location affect the results obtained and can we generalize to a more natural setting?

Consider usefulness

11 Does the research tell us something useful or important? Does it add to our understanding of human behaviour or have practical applications?

Consider ethics

12 Is there any violation of BPS/APA guidelines? Can you justify any ethical concerns you have?

Use the checklist above to evaluate the two experiments summarized below.

How to detect a lie (Jeffry et al., 2005)

These researchers suggest that the physiological measures that are sometimes used to detect lies are not efficient enough and that there may be other ways to detect a lie. They conducted two experiments – the first to detect how long lying takes and if response times can be used to distinguish between people telling lies and people telling the truth, and the second to see how long it takes for a person to make the decision to lie.

Experiment 1

In the first experiment, 87 undergraduate psychology students (54 female, 12 African–American, the rest European Americans) filled out the Social Skills Inventory (SSI) to gather information about basic social skills. They were told what personal information they would be asked about during the lie tests so that thinking time would not be necessary. Questions included basic yes/no and open-ended answer types, including some possibly embarrassing information. The questions were presented in a different order to different participants, who were asked to lie in response to specific items. Answers were recorded on a computer and response times were measured by the software used. Participants were instructed not to clear their throats or make noises like 'ah' or 'um' as these would trigger the response time measurement. The room was quiet and the examiner was not aware of which items the participant had been told to lie about.

The experimenters found that for yes/no questions, response times were longer when the participant lied, with an average difference of approximately 230 ms. For open-ended questions, the lie responses were not clearly different overall from the truthful ones. Researchers were able to use response times to questions to accurately identify truth-tellers and liars between 66% and 72% of the time. They found that there was no significant relationship between this and the social skills of the participants although when information was potentially embarrassing, socially skilled participants were able to lie faster.

The researchers explain their results in terms of a cognitive model whereby telling the truth requires a person to access their long-term memory and then report it, while telling a lie also requires both the decision to lie and the construction of the lie.

Experiment 2

The second experiment compared response times *within* subjects rather than between them, testing whether an individual person takes longer to lie than to tell the truth. This time, 58 undergraduate psychology students (32 women, 10 African–American) were randomly assigned to lie either about

what they did on Saturday night or about their employment history. If subjects were uncomfortable telling the truth about either of these, they were told to lie plausibly and tell the experimenter afterwards which items were lies.

Participants took significantly longer to respond to questions with a lie than with the truth. Open-ended questions took longest, and the researchers were able to determine that the decision to lie adds approximately 352 ms to the time taken to answer the question.

Having found that this technology is more accurate than the polygraph in the same situation, the researchers intend that the software be used to assist employers during recruitment by identifying when job applicants are lying. However, they note that there are still too many false negatives (i.e. the software fails to identify a lie).

Reference

Jeffrey J, Walczyk JJ, Schwatz JP, Clifton R, Adams B. (2005). Lying person-to-person about life events: a cognitive framework for lie detection. *Pers Psychol* 58(1):141–70

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Worksheet 1.2

Example answer to practice question 2 (Chapter 1)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

2 Evaluate the use of participant observation as a research method in the context of this study.

[10 marks]

Participant observation is a method that allows the researcher to gain in-depth information about the participants that could not be gained through any other method. Because the observer gets to know more about the context of the observation and can get to know the participants, rich data can be obtained. This means that the conclusions of the research will have more credibility than results of studies that only observe behaviour in a more superficial way. When the observation is overt, it is possible for participants to change their behaviour, for example guessing the nature of the research and trying to act as they think the researcher expects. This can be less likely if the researcher gets to know the participants in a participant observation like this one. The participants may be acting more naturally here despite the presence of the observer, carrying out their normal activities just as they would if she were any other visitor to their home. These are the main strengths of participant observations.

It is not possible to be sure, however, that participants have not changed their behaviour in such an overt participant observation. For example, one participant offers the observer a cup of tea: perhaps they are behaving in a more organized and careful way than they would if the researcher were not there. The other major difficulty with using a participant observation is that, although the data obtained are rich, the technique can yield a huge amount of data that is then difficult to process and analyse. Although the researcher in this study compared the description of behaviour that the observer recorded with social workers' reports and concluded that they were similar, this was probably very time-consuming.

Some participant observations are criticized on ethical grounds. This one is overt, with the consent of participants, so there is little to be concerned about. Conclusions made from a covert observation can be better because the participants were less likely to change their behaviour, but participants can be upset if they find out someone they developed a relationship with was actually observing them. Here, it seems that the researcher was willing to sacrifice some credibility in order to be ethical.

Qualitative participant observations are not necessarily transferable to other contexts. In this case, the research might be useful for those who are interested in learning about the behaviour of people who have been released from other institutions and are living in shared housing.

Despite the limitations of participant observation, it seems that it was the most appropriate way to gather the

kind of detailed information required in this particular situation.

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Worksheet 1.3

Additional practice questions for Chapter 1

The stimulus material below is based on a research article

According to Weiner (2005), the transition from communism to capitalism in Eastern and Central Europe has been beneficial for many but has left behind some groups, such that the post-communist world can be divided into 'winners' and 'losers'. Women and workers have been identified as two groups of losers. Weiner aimed to study the nature of discontent among female factory workers in the Czech Republic, who would be expected to be among the most dissatisfied with post-communist life.

The researcher began by looking at the Czech media, focusing on articles and interviews with women in order to help identify appropriate questions for discussion. This was followed by focus groups in light-manufacturing factories with 48 women aged between 35 and 55. From these women, the researcher gathered a purposive sample of 19 women to interview individually. The age range was deliberately set to ensure that women who would have no memory of work prior to 1989 were not included in the study. Questions were asked with a focus on changes in family and work life since 1989.

Key findings were as follows.

1 Women had less educational capital and therefore fewer opportunities to move out of their factory jobs than men, who had tended to gain technical qualifications since 1989.

2 Women workers' wages did not increase compared to inflation as much as men's or skilled workers' so that 'we became the poorest group.'

3 Job and social security disappeared and created more psychological stress along with a fear of family bankruptcy.

4 The mother role was incompatible with work as it was not valued by employers or acknowledged as bringing special needs.

5 Women are more likely to be exploited in the workplace with minimal union protection, allowing wage discrimination to intensify.

Reference

Weiner ES. (2005). No (wo)man's land: The post-socialist purgatory of Czech female factory workers. *Soc Probl* 52(4):572–92.

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*Answer **all** the following questions*

1 The study described above used focus groups to gather data initially. Evaluate focus groups as a research method. [10 marks]

2 Discuss considerations involved before, during and after an interview. [10 marks]

3 To what extent can findings be generalized from qualitative studies? [10 marks]

Answer guidelines

1 You do not need an introduction for 10-mark questions. You should begin by explaining what focus groups are, highlighting the key features of the method that are visible in Weiner's study. You should then identify at least three strengths and three limitations. One of the easiest ways to identify these is to imagine why the researcher preferred this method over others: for example, focus groups often encourage individuals to say more than they might in a one-to-one interview (strength) but it is often the case that more confident people dominate while quieter people are inhibited (limitation). Remember that the question asks about focus groups in general, not about this study, but a full answer should link generic strengths and weaknesses to details found in the text.

2 Considerations before, during and after an interview are detailed in Chapter 1. Remember practical considerations such as designing questions for the interview and checking if the recording device works (where appropriate) and ethical considerations such as conducting a debriefing afterwards. You should be able to explain why these considerations are important and where possible, link your answer to the research stimulus given.

3 The issue of generalization from qualitative studies is important. Remember that quantitative research is usually intended to investigate relationships between variables and provide statistical information that can be used for comparison and generalization. In qualitative research, the aim is usually to understand and describe, so it is not usually necessary to generalize beyond the specific context of the research. Look for reasons why the research stimulus provided may or may not be able to be generalized and consider whether this is necessary or desirable. Some researchers argue that it is more important for researchers to give enough detail about the context of the research so that readers can themselves decide if the method and conclusions are transferable to a different context. If this is the case for the research stimulus here, explain what context you think you could transfer it to. Be sure to end with a conclusion briefly detailing to what extent you think findings can be generalized from qualitative studies.

Psychology

Worksheet 2.1

Experiment in evolution with the silver fox

Dmitry Belyaev worked in Siberia with a group of silver foxes, studying the changes that may have led to the domestication of the dog. He suggested that tamability in foxes is a genetic trait with certain physical changes coming as a by-product. He proposed that the same processes he saw in his foxes could explain the domestication of the dog from the wolf (Trut, 1999).

Belyaev's research began in 1959 with 30 male and 100 female foxes from a fur farm. A small percentage of the foxes were allowed to reproduce: the ones that passed a repeated test for tameness in which the experimenters offered food from their hands. After several generations of foxes, the research team found that the percentage of the fox population that passed the test was increasing dramatically, suggesting that the characteristic of tameness was being genetically passed on. From an original set of foxes with mostly hesitant responses to human contact, the foxes bred for more friendly behaviour eventually began competing with each other to gain human contact (Trut, 1999).

Other changes over the generations include slower development of the fear response (which is linked to a later rise in corticosteroid levels in the blood), lighter fur colour, floppier ears, shorter tails and legs. The researchers had created a simulated evolutionary context in which the behavioural characteristic of tamability offered an extreme survival advantage and, after several generations, they found that not only had the fox population developed their tamability, they also changed physically in ways that did not offer a direct survival advantage. Many of the physical changes noticed make specific fox features such as the tail, ears, and muzzle appear more juvenile (Trut, 1999). In addition, a social cognitive change has been observed in that later, domesticated generations of the foxes are significantly more likely to correctly locate hidden food by following a human's pointing gesture than the undomesticated ones, something that many other animals are unable to do (Hare et al., 2005).

Trut (1999) notes that the research team believes the physical changes to be by-products of the genetic changes underlying the behavioural changes. More specifically, they observed that changes in the animals' adrenal glands have reduced the likelihood of them entering a fight-or-flight state due to less corticosteroid release, and relatively higher serotonin levels among the more domesticated animals. These serotonin levels are thought to be responsible for the changes in the timing of the foxes' development and may, therefore, be responsible for the retention of juvenile fox features into adulthood (Trut, 1999).

References

Hare B, Plyusnina I, Ignacio N, Schepina O, Stepika A, Wrangham R, Trut L. (2005). Social cognitive evolution in captive foxes is a correlated by-product of experimental domestication. *Curr Biol* 15(3):226–30

Trut LN. (1999). Early canid domestication: the farm-fox experiment. Behavioral genetics and development may interact in domestication. *Am Sci* 87(2):160–69

1 This research work has been cited frequently because of its important contribution to our understanding of genetics. What significance do you think it has for the study of human psychology?

2 How valid do you think it is to apply these results to humans?

3 Some researchers argue that human aggression and other forms of social interaction are likely to have a genetic basis, particularly relating to levels of serotonin. Consider your answers to the first two questions and explain how the silver fox research offers possible directions for further research to investigate the role of evolutionary and genetic factors.

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Worksheet 2.2

Research methods used in the biological level of analysis

1 Complete the table below. A list of studies mentioned in this chapter is below the table. Use them as examples.

Method	What does the method involve?	Why is this method used?	Examples
Case studies			
Experiments • natural • quasi • laboratory • field			
Correlational studies			

Studies mentioned in Chapter 2

HM	Zietsch et al. (2008)	Phineas Gage
Heston (1966)	Santtila et al. (2008)	Lewy et al. (2006)
Sperry (1968)	Schachter and Singer (1962)	Clive Wearing
Bailey and Pillard (1991)	Maguire et al. (2000)	Morhenn et al. (2008)
Avery et al. (2001)	MA	Janet
Draganski et al. (2004)	Brefczynski–Lewis et al. (2007)	

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Worksheet 2.3

Example answer to short answer question 4 (Chapter 2)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

4 Explain **one** study related to localization of function in the brain. [8 marks]

One study investigating localization of function in the brain is the study of MA by Tierney et al. (2001). By chance, it was discovered that MA had a lesion in the left part of his brain, probably because of the encephalitis he suffered as a small child. The researchers aimed to find out if another part of his brain had taken over functions that are normally localized in the left hemisphere. They were particularly interested in spoken language, which is normally localized in Broca's area in the left frontal lobe. They were interested to find out as well if his use of sign language to communicate with his parents from a very young age might have affected which part of his brain was responsible for his speech.

The researchers used PET scans to compare MA's brain and the brains of other fluent sign language users while they performed various language and movement tasks. Unlike most sign language users, MA's right hemisphere was highly active. The researchers concluded that his right hemisphere had probably taken over speech production when the left hemisphere was damaged. This type of change is evidence of neuroplasticity – the idea that the structure of the brain is able to change; for example, some neural connections become stronger when a particular skill is practised.

In MA's case, the researchers concluded that his brain structure was changed in the right hemisphere, with more connections than normal in his right frontal lobe to allow him to produce language, possibly at the expense of other skills normally localized in the right hemisphere.

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Worksheet 2.4

Example answer to essay question 2 (Chapter 2)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

2 Discuss ethical considerations related to research studies at the biological level of analysis.

[22 marks]

All psychological research needs to follow ethical guidelines. This means that researchers must inform participants about the nature of their research and obtain consent from all participants. Researchers should not deceive their participants unless revealing full information will affect the validity of their work. Participants should not be harmed physically or psychologically and they have a right to anonymity, with their results kept confidential. They should be able to withdraw from the research at any time. This essay looks at how ethical issues like these are dealt with by researchers studying at the biological level of analysis.

Research at the biological level of analysis sometimes struggles to follow the guidelines above. The most important problem is that in order to carry out experiments which give evidence of a cause–effect relationship, researchers need to alter the biology of their participants without them knowing. This can seem unethical because it could cause harm and be deceptive. For example, Schachter and Singer (1962) injected participants with adrenalin. Although this was done in a safe amount, fully informed consent could not be obtained from the participants as is might cause demand characteristics such as the placebo effect, whereby effects are seen simply because the participant believes they have received a treatment. Thus, in many biological experiments, researchers justify the use of deception in order to keep their work valid.

There are relatively few experiments like this at the biological level of analysis because some of the most important cause–effect information could only be gained by causing significant harm to the participants. For example, when researchers want to know about the role of different parts of the brain in behaviour, they would need to test theories by damaging specific locations to isolate causes and effects. Clearly it is impossible to do this, so researchers must rely on natural experiments and case studies, where the damage has already been caused and they can study possible effects. Examples of this include Sperry's (1968) work with split-brain patients and Ogden's (2005) description of the case study of Janet.

In order to investigate the role of the corpus callosum in animals, it was possible to sever this link between the two hemispheres, but Sperry could not do this in humans. His work is a natural experiment because he carried it out with participants who already had their corpus callosum severed for medical reasons. Although this means that his work is ethical, it also means that his conclusions do not have as much validity as he did not manipulate

the independent variable himself: this means that he could not confidently make cause–effect conclusions about

the role of the corpus callosum in humans. Similarly, Ogden's work with patients like Janet has revealed important information about the role of the right parietal lobe in causing hemineglect, but case studies like that of Janet only involve the study of the effects with limited information about exactly how they are caused.

Medical professionals are able to ethically gather detail about damage, but again, cannot confidently make conclusions about cause. Modern brain-imaging technology has improved researchers ability to understand what has caused the damage, as in Janet's case where a CT scan showed that she had a brain tumour. The famous case study of HM similarly is ethical in terms of not causing harm, and his initials were used to preserve anonymity, but there is some confusion about exactly what caused the memory problems that researchers studied in him. In particular, it is unclear whether his problems were caused by the damage done to his hippocampus during his brain surgery to correct epilepsy or if the drugs he took for many years afterwards might have also had a role.

Another group of studies that are ethical but have limited validity are quasi-experiments like Maguire et al.'s (2000) study of London taxi drivers. MRI scans were carried out on drivers with a lot of experience driving in London and were compared with scans taken from the general population, looking at existing differences. A different, longitudinal experimental design is possible to study changes over time, but it would still not be possible to isolate the cause of differences between the brains of experienced drivers and inexperienced drivers without carrying out an unethical experiment.

The last group of studies to consider in terms of ethical issues is research involving animals. It is an obvious solution to the problems outlined above for researchers to harm animals instead of humans. Many people feel that all animal research is unethical because the animals cannot give informed consent, but it is generally accepted as long as the animals do not suffer too much and the research is of significant benefit to humanity. For example, Myers and Sperry (1953) severed the corpus callosum of cats to investigate its role in transferring information between the left and right hemispheres. This clearly did not result in unjustifiable suffering: it gave medical professionals the confidence to repeat the procedure with humans to correct epilepsy. It could be argued, however, that the manipulation of hormones in animals such as in Beach (1974) and Young et al. (1964) causes the kind of changes to animals' lives that will lead to future damage. Beach's female dogs exposed to male hormones were more likely to urinate like male dogs. If other behaviour was affected, this might prevent them living a natural life; in such cases, they may need to be euthanized.

Thus, there is a range of ethical issues that researchers working at the biological level of analysis must consider. Generally, ethical considerations prevent researchers doing the kind of experimental work on humans that is necessary to confidently make cause–effect conclusions, and therefore they carry out their research using methods that do not cause damage to humans.

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Worksheet 3.1

Example answer to short answer question 3 (Chapter 3)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

3 Explain how technology can be used to investigate cognitive processes. [8 marks]

The studies I discuss show the two most important contributions that studies based on fMRI can make: identifying which areas of the brain are involved in decision-making and helping to decide between competing psychological theories of behaviour.

fMRI technology monitors blood flow in the brain over time. All studies relying on fMRI are based on the premise that the more active a brain region is, the more blood it needs. So, fMRI can be used to identify brain areas involved in decision-making. Huettel et al. (2006) provide a very good example of the second, and increasingly very important, use of fMRI technology – helping us to decide which among competing psychological theories are more likely to be valid when it is not easy to compare the theories by relying on purely behavioural methods.

Many fMRI studies have been carried out in attempts to identify brain regions involved in decision-making. In general, the activation of areas in the prefrontal cortex and the parietal cortex increases during decision-making (Platt, 2002). Moreover, the activation is stronger when the decisions studied involve risk (Paulus et al., 2001).

Huettel et al. (2006) used fMRI technology to differentiate between ambiguous decisions and risky decisions, a distinction which has proved very difficult to draw based only on behavioural decision-making research.

Risk and ambiguity can be defined as follows: a decision with several possible outcomes involves risk if the probabilities of the various outcomes are known. A decision with several outcomes involves ambiguity if the probabilities with which the various outcomes can occur are not known. Huettel et al. addressed the following question: Would decisions involving risk be associated with different brain activation patterns? They presented participants with pairs of monetary gambles. The gambles included, among others, ambiguous and risky gambles and the participants had to choose among them.

Huettel et al. confirmed earlier findings about the brain regions that are activated in decision-making tasks. Thus, the list of brain structures showing high levels of activation included the prefrontal cortex and parietal cortex. More importantly, Huettel et al. were able to identify brain regions that showed a selective increase in activation for decision-making under ambiguity compared to decision-making under risk. Preference for ambiguity was associated with increased activation in the lateral prefrontal cortex, while preference for risk was associated with increased activity in the posterior parietal cortex. Huettel et al. concluded that ambiguous decision-making does not represent a special case of risky decision-making but a different type of decision-making.

Psychology

Worksheet 3.2

Example answer to essay question 1 (Chapter 3)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

1 Evaluate schema theory with reference to research studies. [22 marks]

The main idea underlying schema theory is that the way we process information, and the way we act in specific settings, is determined to a significant extent by relevant previous knowledge stored in our memory. Such knowledge is said to be organized in the form of schemas – cognitive structures that provide a framework for organizing information about the world, events, people and actions.

According to schema theory, schemas perform several interrelated functions:

- they organize information in memory
- they can be activated, often automatically, to increase information-processing efficiency
- in the form of stereotypes (social schemas), they influence social perception and behaviour, often when automatically activated
- they can lead to distortions and mistakes when the wrong schemas become activated.

The functions of schemas have been investigated in a many studies.

Bartlett (1932) asked his English participants to read *The War of the Ghosts*, a Native American folk tale. The participants' memory for this story was tested by repeated reproduction, where the same participant contributed six or seven reproductions, at various intervals after reading the story. Unsurprisingly, with successive reproductions, the story became shorter and shorter. The most important findings related to the distortions the participants were introducing in their recall of the story. Several distortions were in the direction of making the story more understandable from the point of view of the participants' experiences and cultural background. Thus, activities which were unfamiliar ('hunting seals') were changed into more familiar ones ('fishing'). On several occasions, 'canoes' became 'boats'. The combined effect of these changes was to transform a strange American folk tale into a conventional English story. According to Bartlett, the way the participants recalled the story came under the influence of relevant schematic knowledge in the participants' memory. Such knowledge consisted of schemas acquired in and reflective of the participants' own culture.

Bartlett's work suggests that memory is an active reconstructive process, rather than a passive reproductive one. Bartlett's views on schemas and memory as a reconstructive process have exerted a significant influence in modern psychology. His work has been criticized, however, on methodological grounds as he did not explicitly asked his participants to be as accurate as possible, nor did he care much about the exact environments in which his studies were carried out. But confirmation of his major findings has come from several well-controlled studies (Eysenck and Keane, 2010).

Macrae et al. (1994) clearly demonstrated one of the most basic properties of schemas – that they can simplify information-processing and function as 'energy-saving devices'. He asked participants to carry out two tasks at the same time. In the first, participants had to form impressions of a number of target persons described by their name and 10 personality characteristics. While carrying out this task, they were also participating in a comprehension test. There were two conditions: half of the participants were told the jobs of the targets, the other half did not receive this information. It was assumed that, when forming their impressions, the first group of participants would be able to use their stereotypical knowledge of the targets' professions to simplify the processing demands of the impression-formation task. Participants who relied on the job stereotypes did perform better at both tasks.

Participants in Loftus and Palmer's (1974) study watched seven film clips of different car accidents. After each clip, participants described what they saw and answered a number of questions about it. One of the questions, the *critical question*, asked about the speed of the cars in the accident. The experiment involved five experimental conditions. The conditions were defined by the verb used to ask the critical question about the cars' speeds. In one of the conditions, the question was: *About how fast were the cars going when they hit each other?* In the other conditions, 'hit' was replaced with 'contacted', 'collided with', 'bumped into' and 'smashed into'. Loftus and Palmer found that the speed estimates were influenced by the wording used. For example, 'hit' led to an average estimate of 34 mph, the corresponding average for 'smashed into' was 40.8 mph.

Loftus and Palmer's findings can be explained by Bartlett's view of memory as an active reconstructive process. It can be argued that the verbs used in the various conditions activated different schemas, which influenced the speed estimates. Typical schemas of cars smashing into one another contain, in all likelihood, the assumption that the cars are moving faster than cars just hitting each other.

Many of the studies discussed above were laboratory experiments. This raises questions about their ecological validity. Eysenck (2010) discusses the ecological validity of studies of eyewitness testimony and notes that there may be several differences between the laboratory and real-life situations. Such criticism should not detract from the fact that schematic influences have been repeatedly demonstrated.

The studies I discussed above indicate that, as schema theory claims, schemas help us organize and process information efficiently. This, along with the fact that schemas are usually activated automatically makes them 'energy-saving devices'. Schemas are relatively stable and usually very resistant to change – so they ensure continuity in the ways we process information and act. In situations where new encounters require a genuinely novel approach, when schema-based expectations conflict with reality, or simply the wrong schemas become activated, errors and distortions in the way we perceive, remember and think are all but inevitable.

As Eysenck (2009) remarks: 'Schema theories have proved generally successful. Of particular importance, they have identified some of the main reasons why our memories are sometimes distorted.' However, many have complained that schema-based theories tend to be vague in that they do not specify the precise nature of schemas. Schema theory is a cognitive theory relying on the notion of the schema. Schemas are not, of course, directly observable. Like any cognitive structure, they are inferred from behavioural evidence, not always an easy task.

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Worksheet 4.1

Example answer to short answer question 3 (Chapter 4)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

3 Describe the role of **one** factor influencing conformity. [8 marks]

I am going to describe how group decision-making is affected by the requirement that a consensus is reached. This is a common factor in several settings (e.g. organizations). In the context of the phenomenon of group polarization, such a requirement magnifies the conformity pressures within the group.

The pertinent question is: *Do individuals working as a group and asked to reach consensus make riskier decisions than the same individuals working on their own?*

Wallach et al. (1962) addressed precisely this question. They asked their participants to complete the Choice Dilemmas Questionnaire. This involves a series of 12 stories – the main character in each story faces a dilemma with two options, one of which is riskier than the other. An example of such a dilemma is that of a low-ranking chess player facing a highly favoured opponent in an early match. The low-ranking player has the choice of attempting or not attempting a deceptive but risky manoeuvre that might lead to quick victory if it is successful or almost certain defeat if it fails.

During the first phase of the experiment, participants worked individually. In a second phase they met in a group and, for each of the dilemmas, were asked to arrive at a unanimous decision. Wallach et al.'s findings indicated that the options chosen in the group condition were riskier than those chosen by the individuals working alone.

The phenomenon demonstrated by Wallach et al. was initially called the 'risky shift' – a term that refers to the tendency for group discussions to produce riskier decisions than those reached by group members working on their own. However, later research demonstrated that group decisions are not inevitably riskier: the risky shift is an example of the wider phenomenon of 'group polarization'. Group polarization refers to the tendency of groups to make decisions that are more extreme than the decisions their members make when working individually. For example, Myers and Bishop (1970) found that groups of racial liberals became more liberal on race-related issues following discussion. Groups of racial conservatives, on the other hand, became more conservative.

The relevance of group polarization research for conformity is clear. A strong, and often explicit, need to reach consensus (perhaps coupled with a preference within the group for the same side of an argument) intensifies conformity pressure. Given such preconditions, both informational and normative influences are intensified.

Psychology

Worksheet 4.2

Example answer to essay question 1 (Chapter 4)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

1 Evaluate social identity theory, making reference to relevant studies. [22 marks]

Social identity theory (SIT) attempts to understand how social categorization affects intergroup behaviours (Tajfel and Turner, 1979).

SIT is associated with a number of pioneering studies, most of which rely on the 'minimal group paradigm'. In recent years, SIT has been explored with the use of additional types of study but I am going to discuss studies using the minimal group paradigm. Such studies are directly relevant to the evaluation of the theory and several have been instrumental in its development.

SIT is based on a number of inter-related concepts: social categorization, social identity, social comparison and positive distinctiveness. Social categorization divides the social environment into ingroups (to which an individual belongs) and outgroups (to which the individual does not belong). Social identity is the part of our self-concept based on knowledge of our membership of one or more social groups. It is separate from personal identity **–** which is the part of our self-concept that derives from the way we perceive our personality traits and the personal relationships we have with other people (Turner, 1982). Whereas personal identity is associated with interpersonal behaviours, social identity is related to intergroup behaviours.

Our social identity contributes to how we feel about ourselves, so we seek positive social identities to maintain and enhance our self-esteem. Positive social identities may result from the process of social comparison as we continuously compare our ingroups with relevant outgroups. This social comparison process is set in motion by our need for positive distinctiveness – the motivation to show the superiority of our ingroup compared to relevant outgroups. By thus establishing the superiority of our ingroup, we make sure that our social identities, and therefore our self-esteem, are positive enough.

Intergroup behaviours, the study of which forms the focus of SIT, are based on social identities and exhibit the following general characteristics:

- ingroup favouritism (the tendency to behave in ways that favour members of our ingroup compared to members of outgroups)
- intergroup differentiation (behaviour that emphasizes differences between our ingroup and outgroups)
- ethnocentrism (an ingroup-serving bias: positive behaviours by ingroup members tend to be internally attributed whereas negative behaviours receive a situational attribution; the reverse pattern is manifested

when explaining positive and negative behaviours in an outgroup)

- conformity to ingroup norms (much greater than conformity to outgroup norms)
- stereotypical thinking (ingroupers and outgroupers are all perceived according to relevant stereotypes).

In this essay, I will concentrate on the crucial SIT phenomena of ingroup favouritism and intergroup differentiation. The other characteristics listed above highlight the diversity of phenomena that have been constructively addressed by SIT.

SIT has been supported by many experiments using the minimal group paradigm introduced by Tajfel (e.g. Tajfel et al., 1971). The technique defines ingroups and outgroups on arbitrary criteria such as by tossing a coin. Group members never meet or in any other way interact with one another. In fact, they do not even know who else belongs to their ingroup or to the outgroup. Tajfel et al. (1971) is an early study of this type.

Tajfel et al. (1971) divided a number of British schoolboys into two groups. Although the experimenters allocated the participants randomly to the two groups, the participants were led to believe that the groups were defined on the basis of a preference for paintings by either Klee or Kandinsky. The boys, who worked individually, had to distribute points to ingroup and outgroup members. They were not allowed to give points to themselves. Tajfel et al. were interested to see how the participants distributed the points.

The boys showed a strong tendency to favour members of their ingroup over members of the outgroup, thus manifesting ingroup favouritism. Their strategies also provided evidence for the SIT notion of positive distinctiveness. On many occasions, the boys would sacrifice point gain for their ingroup in order to maximize the difference in point gain between their ingroup and outgroup. For example, when given the choice, participants gave an ingroup member 7 points and an outgroup member 1 point, rather than giving both 13 points as they could have done.

There are hundreds of studies using the minimal group paradigm, most supporting the major tenets of SIT (Hogg and Vaughan, 2008). However, minimal group paradigm research has been criticized: perhaps the effects obtained are the result of participants responding to demand characteristics. As the minimal group effect can be obtained even when the participants do not know they are being observed, this does not seem to be likely (Grieve and Hogg, 1999). Moreover, ingroup favouritism and outgroup discrimination have been repeatedly demonstrated in natural settings with real-life groups. Brown (1978), for example, carried out a field study of wage negotiations in a British aircraft engineering factory. He found that trade union representatives from one department sacrificed about £2 a week in order to increase their relative advantage over a competing outgroup to £1.

The strength of the minimal group effect varies depending on a number of factors. Mummendey and Otten (1998) found that it is more powerful when participants distribute positive resources (e.g. points) and weaker, if present at all, with negative resources (e.g. punishment). The strength of the minimal group effect can also be reduced when participants have to justify their allocation of resources to ingroup and outgroup members (Dobbs and Crano, 2001).

The self-esteem hypothesis, which figured extensively in the original statement, is no longer viewed as central to SIT. Some studies have shown that the increase in self-esteem associated with outgroup discrimination is too short-lived to have long-lasting effects on how ingroup members view themselves (Rubin and Hewstone, 1998).

In conclusion, SIT has demonstrated the crucial role of social categorization in intergroup behaviour and the importance of distinguishing between personal identity and social identity. Moreover, it has contributed very significantly to the explanation of an impressive list of social psychological phenomena, including conformity and stereotyping. The original SIT theory has expanded over the years and continues to generate a lot of research. Starting with Tajfel's pioneering minimal group studies, SIT has been supported by hundreds of relevant empirical studies.

Despite its shortcomings (e.g. problems with the self-esteem hypothesis), SIT has stood the test of time and continues to make substantial contributions to our understanding of intergroup behaviour (Hogg and Vaughan, 2008).

Psychology

Worksheet 5.1

The causes and effects of stigma

It seems that the public have misunderstood what effects psychological disorders have on those who live with them. This is partly because of a lack of information and partly because of sources of misinformation. The media is often blamed. For example, Mullen (1997) describes how news headlines report that a criminal has a history of mental illness or has spent time in a psychiatric institution, but do not report other types of contact with medical systems in the offender's past. In addition, those with mental illnesses are characterized as homicidal maniacs, rebellious free spirits, female seductresses, enlightened members of society, narcissistic parasites, or zoo specimens (Hyler et al., 1991). There is evidence that those who have close relationships with people who have psychological disorders quite logically have more positive and realistic attitudes (Read and Law, 1999).

One of the most interesting and somewhat paradoxical causes of stigma is actually the typically biomedical orientation of many traditional anti-stigma campaigns. While encouraging the public to consider mental illness as being like any other illness originally seemed like a positive approach that people would relate to, there is evidence that taking this approach has actually encouraged the belief that behaviour is outside the control of a person with a psychiatric diagnosis, and that genes and medication share control. Along with this come beliefs that such a person is more unpredictable and dangerous to others and a fear of being close to the person (Read et al., 2006). This affects professionals as well as the public (consider the Rosenhan study on p. 151), and it seems that alternatives which emphasize that people with psychiatric diagnoses are understandable, and that their behaviour is a reasonable response to problems in life, are associated with much more positive attitudes (Read, 2007). A number of anti-stigma campaigns now take this approach, often asking well-known personalities to assist, for example the Time to Change campaign in the United Kingdom, which benefitted from the assistance of Stephen Fry.

Why does such stigma matter? There are several reasons beyond basic human rights to dignity and fair treatment by others. One of these is that stigma discourages people from seeking help when they need it, or even admitting to friends and family that they are having trouble – out of fear of receiving a diagnosis that alienates them, a problem exacerbated by differences in the cultural significance of diagnosis in multicultural societies (Yang et al., 2008). A study of the effects of stigma on those with psychiatric illnesses by Markowitz (1998) indicates that the experience of stigma reduces life satisfaction and increases anxiety and depression symptoms. When it seems that the majority of people do not harbour negative attitudes towards people who have psychological disorders, and that stigma is damaging, it is clearly worthwhile to invest in effective anti-stigma campaigns.

References

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1 Make a short list of the causes and effects of stigma identified above.

2 Carry out your own informal investigation of the portrayal of those with psychological disorders in the media. If you are in a class, you could approach this in groups, one group addressing television news, another looking at newspapers, another looking at film and so on. If you can gather data (such as newspaper articles or news clips from television) as a class, Higher Level students could then apply their Paper 3 content analysis skills and extract themes from the data to establish whether the portrayals described above are relevant for the media in your country.

Psychology

Worksheet 5.2

How we react to animals

Bennett–Levy and Marteau (1984) conducted a correlational study to investigate the relationship between visual characteristics of animals and people's reactions to them. The underlying hypothesis is that humans are biologically prepared to fear particular characteristics of animals, not the animals themselves. This would mean that we are more likely to develop a phobia for animals which have specific combinations of characteristics.

Participants (aged on average in their mid-thirties, and an even spread of males and females) were asked to fill out one of two questionnaires. The first was to determine reactions to 29 harmless animals (including grass snake, frog, jellyfish and slug) in terms of fear and willingness to move near to them (high scores indicated preference for a greater distance). The second questionnaire was to determine how ugly, slimy and speedy the animals are and how suddenly they move. Ratings from the two questionnaires were correlated with each other.

Significant correlations were found between ugly and slimy (0.75), ugly and fear (0.82), ugly and nearness (0.87), slimy and fear (0.61), slimy and nearness (0.77) and fear and nearness (0.90).

The ugliest animals were slug, cockroach, spider and rat. The slimiest were slug, jellyfish, worm and frog. The animals given the highest fear ratings were rat, jellyfish, spider and cockroach. Animals least likely to be picked up or approached were rat, cockroach, jellyfish and spider.

The researchers concluded that characteristics that make an animal different from human form are those that are most likely to elicit fear responses, so that we may be biologically prepared to have a much more positive reaction to people than to, for example, a jellyfish.

Reference

Bennett–Levy J, Marteau T. (1984). Fear of animals: what is prepared? *Brit J Psychol* 75:37–42

1 This is a correlational study. Consider the typical limitations of correlational studies and highlight any specific limitations you can identify in this study. Focus particularly on problems in isolating cause and effect.

2 If the worm and frog had high slimy ratings, why were their fear ratings not so high (they were approximately in the middle)? What alternative explanations can you think of?

3 Fear was rated on a three-point scale: 1 = not afraid, 2 = quite afraid, 3 = very afraid. How valid do you think measurement like this is?

Psychology

Worksheet 5.3

Example answer to practice question 1 (Chapter 5)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

1 Discuss how biological factors influence **one** psychological disorder. [22 marks]

Phobias are excessive or unreasonable fears that occur in response to specific objects or situations, and people who have this disorder tend to try to avoid exposure to the stimulus, sometimes afraid that they will have a panic attack if they encounter it. Researchers have investigated several different biological factors that influence phobias, focusing on the role of hormones and neurotransmitters in relation to the fight-or-flight response and on genetic and evolutionary origins of the disorder. This essay addresses each of these in turn.

The fight-or-flight response is a physiological reaction to some kind of threat which prepares the body to deal with the threat. It involves a surge in adrenalin levels, increased heart rate and sweating, and ends when GABA is released to return the body to its normal state. Phobia researchers have looked for reasons why the fight-or-flight response might be triggered when a phobic person encounters a specific animal, item or situation. Evidence that the fight-or-flight response might be overactive in people with phobia is provided by Merckelbach et al. (1996), who indicate that people with the disorder have elevated levels of ACTH and that this is associated with easier learning of new fears. Evidence that phobic individuals have abnormal levels of the neurotransmitter GABA and therefore have trouble returning to a normal state when the fight-or-flight response starts is provided by studies showing that medication which increases levels of GABA is effective in reducing symptoms in this disorder. Research in this area is sometimes considered to be reductionist because it focuses on neurotransmitters and hormones, ignoring the many other symptoms of phobias, such as catastrophic thoughts. While it is possible that biological factors influence such cognitive symptoms, it is difficult to demonstrate this in experimental research because it could cause harm to participants: researchers are reluctant to experimentally create phobias in healthy participants. Problems in levels of hormones and neurotransmitters may be genetic: Skre et al. (2000) found that identical twins are more likely to both have a phobia than non-identical twins, but often the type of phobia is different. Although this provides strong evidence that the problem may be genetic in origin, there are two problems with this evidence. First, identical twins do share their environment to a large extent, and second, no precise causal connection between any genes or combination of genes and behaviour can be established.

Other research has focused on the brains of phobic individuals to determine what parts of the brain are active. Ahs et al. (2009) have shown that the amygdala is very important in the fear reaction by correlating ratings of distress with activity in the amygdala in the right hemisphere of the brain. Their research suggests that the amygdala sparks the fight-or-flight response in people, and they argue that when fears are learned, this is reflected in strengthened connections between object recognition areas of the brain and the amygdala. Research

like this is helpful in describing the process of the fear reaction that phobic people go through, but it is not clear exactly what is the cause and what is the effect: brain-imaging studies of phobic people are capable of demonstrating correlation, not causation.

Evolutionary psychologists have tried to investigate the cause of phobias by considering the phobic response as an evolved reaction. While it is usually very difficult to carry out research that will prove an evolutionary hypothesis, Ohman et al. (1975) were able to show that people are faster to learn some specific fears than others. Although the experiment was possibly unethical, Ohman et al. tested their ideas by pairing electric shocks with 'prepared' and 'unprepared' stimuli. Pictures of prepared stimuli included sometimes dangerous animals like snakes and spiders. It was easier for participants to be trained to fear these pictures than pictures of unprepared stimuli like flowers. Other evolutionary psychology research by Davey et al. (1998) in several countries suggests that many of our phobias are linked to the disgust reaction. Therefore, the conclusion from evolutionary research is that it is a survival advantage for us to recognize dangerous and disgusting things quickly and avoid them. This is supported by Bennett–Levy and Marteau's (1984) correlational study showing that these are the two features of animals that we are most afraid of.

Thus we can see that evolution, brain anatomy and biochemistry all seem to affect phobias, possibly explaining why humans have the capacity for the disorder and explaining how the phobic reaction occurs in the body. Methodological limitations including the ethical impossibility of experiments mean that we are limited mostly to correlational research which cannot show cause and effect, thus leaving us with an incomplete understanding of the importance of biological factors, but with directions for future research and clues to assist treatment of the disorder.

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Psychology

Worksheet 5.4

Additional practice questions for Chapter 5

1 Examine the concepts of normality and abnormality. [22 marks]

2 Discuss reliability and validity of diagnosis. [22 marks]

3 **a** Describe symptoms and prevalence of **one** disorder. [6 marks]

b Contrast **two** different approaches to treatment (biomedical, individual or group) for this disorder. [16 marks]

Answer guidelines

1 This is a question that requires you to examine the basis of different approaches to explaining normality and abnormality with reference to research and theory.

Consider the idea, for example, that deviation from social norms constitutes abnormality and is therefore a symptom we might be interested in treating. It is a good idea to use examples of behaviour connected with the disorders you have studied; so, for example, if a person refuses to eat with other people or plays with their food a lot, these are often taken as signs of an eating disorder. Address the problems with defining abnormality this way and where possible make reference to research. Any research that addresses cultural differences in abnormality will be extremely useful for you to make your point.

Don't forget that you need to consider normality as well, so you will want to make reference to Jahoda's (1958) explanation of ideal mental health. You could link this to symptoms of phobia, depression and anorexia nervosa to make your explanation clear.

2 There are several approaches you could take to answering this question. The best way to start is by addressing what reliability and validity are and why they are important ideas. Following this explanation, you should explain how validity and reliability can be tested.

The main body of your essay should include specific reference to studies that have addressed reliability and validity such as Caetano (1973), Rosenhan (1973) and Nicholls et al. (2000).

The problems of diagnosis and labelling highlighted by Rosenhan can be related to the diagnostic criteria provided for the disorders you have studied. Consider how any items might cause concern about the validity of diagnosis, such as the note for depression that bereavement should be considered a better explanation for symptoms as long as it is within a specific time period.

You should also include reference to culture and gender issues in diagnosis where these are known to interfere. For example, if women are over-represented in depression statistics, does this mean that women are more vulnerable or that the diagnostic criteria are wrong?

At the end of your answer to this question you should be able to provide a brief conclusion that summarizes your main argurments for or against validity and reliability.

3 This is a two-part question and the parts are marked separately. Make sure you answer them separately as this makes a big difference to the examiner marking your paper. The two command terms used are *describe* and *contrast*.

a This requires you to describe. No analysis or evaluation is necessary: some simple factual information for **one** disorder is sufficient.

b Contrasting **two** approaches does need evaluation in order to demonstrate your critical thinking skills. There are several choices you could make to answer the question, for example biomedical vs individual CBT for depression. Focus on:

- level of analysis and its principles
- empirical evidence
- type of research possible
- efficacy of treatment
- limitations of the approach.

There is little need for a conclusion for this answer if you have made evaluative comments throughout your answer.

Psychology

Worksheet 6.1

Example answer to practice question 2 (Chapter 6)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

2 Evaluate **one** psychology theory relevant to developmental psychology. [22 marks]

The psychology theory I will address and evaluate in this answer is Jean Piaget's theory of cognitive development. Developmental psychology deals with the lifelong process of change and is the study of how, and why people change over time in the way they behave, think, and relate to others. Working within this approach, Piaget developed the following basic assumptions about cognitive development.

- Intelligence is under genetic control and develops in the form of predetermined stages.
- Children do not passively receive their knowledge; they are curious, self-motivated and seek out information to construct their own understanding of the environment.
- Individuals construct their view of the world through mental frameworks of understanding.

Piaget argued that knowledge developed through cognitive structures known as schemas. Schemas are mental representations of the world and how the individual interacts with it. As a child develops, his or her schemas develop as a result of his or her interaction with the world. Piaget proposed four stages each child moves through in sequential order during cognitive development. Each stage is more sophisticated than the last and is the result of biological maturation and an active interaction with the environment. The sensorimotor stage (0–2 years) is characterized by the infant having no formal schema for the world or itself. It can only know the world via its immediate senses and the motor or movement actions it performs. This stage is illustrated by concepts such as profound egocentrism and a lack of object permanence. The pre-operational stage (2–7 years) shows a child who cannot rely on internal logical rules and is still dominated by the cognitive limiting effects of egocentrism as he or she has a limited ability, or in some cases no ability, to see, think, feel or imagine the world from another's point of view.

There are criticisms of the Piagetian view of these first two stages. Children often design complex games with multiple roles for themselves and their props, suggesting a more sophisticated understanding of objects than the simple lack of conservation ability. For example, Field et al. (1982a) found 4–5-year-old children can spend as much as 20% of their playtime constructing sophisticated roles for different objects above and beyond their intended use (e.g. blocks become trucks, brooms become horses). Another criticism is the negative tone Piaget uses: by using terms such as 'pre-operational', he focused on what children cannot do rather than what they can achieve. Children can also develop imaginary characters with whom they engage in conversation. This is seen as

a sign of a rich imagination and a normal part of the development of pretence for children (Taylor et al., 1993a). These elaborate fantasies demonstrate the advanced skills children possess in re-imagining the world for their own use and they provide a more complete picture of the child at this age than Piaget.

Piaget's next stage is the concrete operational stage (7–11 years). During this stage, the child develops definitive rules or schemas for ordering the world. The final stage is the formal operations stage where the child's mental structures are so well developed that ideas and problems can be manipulated mentally without the need for physical objects.

Criticism can be levelled at the 'ages and stages' part of his theory as it suggests a fixed definitive scale for cognitive development which is at odds with the real world of a child. However, Piaget produced the first comprehensive theory of child cognitive development and he modified the theory to take account of criticism and envisaged it constantly changing as new evidence came to light. It is also important to remember the theory is biologically based and demonstrates the child as a determined, dynamic thinker, anxious to achieve coherence and test theories. Piaget developed the notion of constructivism – he argued children are actively engaged with constructing their knowledge of the world rather than acting as passive receivers of information. This now widely accepted idea changed the view of childhood and significantly influenced the education profession.

Piaget's methods have been criticized as too formal for children. When the methods are changed to show more 'human sense', children often understand what is being asked of them and show cognitive ability outside of their age-appropriate stage. An example of this is his approach to demonstrating the egocentrism (Piaget and Inhelder, 1956) of the pre-operational child through the 'three mountain experiment'. When 4-year-olds were shown a mountain scene, they tended to be unable to describe the same scene from the point of view of a doll on the other side. However, the mountain scene apparatus has been criticized as being too far from the normal operating world of the child – children are not used to seeing such scenes. They may have been confused by the layout, by adult objects placed on the scenes and by the need to identify the doll's position through a photograph. When Hughes (1975) used a policeman doll instead of a mountain scene (the children had to hide a boy doll from two policeman dolls who were arranged around a piece of cardboard apparatus) 90% of 4-year-olds were successful. This demonstrates that the egocentrism seen in the pre-operational child can be overcome if the task is made more age appropriate. In the 'three mountain experiment' Piaget focused on an abstract mental problem failing to understand the social undercurrents the policeman doll allowed the child to see.

Piaget failed to distinguish between competence (what a child is capable of doing) and performance (what a child can show when given a particular task). When tasks were altered, performance and therefore competence were affected. The notion of biological readiness has also been questioned: If a child's cognitive development is driven solely by innate factors, then training would not be able to propel the child onto the next stage. However, when methods are modified and children are allowed to learn from their mistakes they have shown characteristics of later stages which a strictly biological approach should not see them as possessing. Piaget did go some way to account for this as he argued children will experience uneven cognitive development due to personalized learning styles. Piaget has been criticized for under-estimating the role of language as well as the

role of social development in cognitive development (addressed by Vygotsky). The theory is very descriptive but

it does not provide a detailed explanation for the stages and the model can be seen as too rigid and inflexible. However, its supporters argue that Piaget never intended it to be seen in such a light, and it should be seen more as a metaphor and a guiding principle for teaching and learning.

Psychology

Worksheet 6.2

Additional practice questions for Chapter 6

1 Discuss strategies to build resilience. [22 marks]

2 Discuss the formation and development of gender roles. [22 marks]

3 Discuss the relationship between physical change and development of identity during adolescence. [22 marks]

Answer guidelines

1 The command term *discuss* asks you to present a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.

Weigh up the strengths and limitations of the strategies needed to build resilience. You should begin with a paragraph detailing the sources of adversity:

- poverty and disadvantage
- social exclusion
- unemployment or low quality work.

Schoon and Bartley then put forward the following sources of resilience:

- academic competence
- an effective and supportive family life
- an effective social environment
- employment.

The strategies we looked at to build resilience are:

- home-visit programmes
- teen mother parent education
- Head Start and Early Head Start programmes
- after-school programmes in all high-risk communities.

We summarized as follows.

- The child should have a close relationship with at least one parent and even children who suffer from extreme early deprivation can be resilient as long as the rearing environment is loving and supportive.
- The temperament of the child and its ability to seek support when needed and be self-critical.

- The child should have access to a well-rounded social and educational support network in the community.

2 The command term *discuss* asks you to present a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.

Weigh up the strengths and limitations of the explanations put forward to explain gender role development. You then discuss these in the context of each other.

You need to define gender (which can be seen as referring to a schema or a set of behaviours, rights, duties and obligations of being male or female) and then discuss the Social learning theory, cognitive and biological approaches to explaining it.

Social learning theory is illustrated by Archer and Lloyd (2002), Lamb and Roopnarine (1979), Leary et al. (1982) and Lewis (1972). Remember that these Western-centric studies have a degree of ecological validity as they were conducted as observations but they were made in a time when gender roles were more clearly defined than now. Caution is needed when contemporizing the results either to current Western society or to other cultures.

Cognitive explanations are illustrated by Kohlberg's theory, Marcus and Overton (1978), Slaby and Frey (1975), Bee (1995), Liben and Signorella (1993).

Biological explanations are illustrated by rough and tumble play, Beach (1974) and Young et al. (1964). Include animal research but use caution when generalizing findings from other species – they are still relevant and offer a valid way forward in considering gender role development.

3 The command term *discuss* asks you to present a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.

You would need to start with a definition of adolescence (usually, the transitional period between childhood and adulthood). Given the nature of the question, you may wish to have a physiological (physical) element and a cognitive (identity) element in the definition. Thus:

- A biological perspective would view adolescence as the period when there is a rapid increase in growth (known as the growth spurt) and redistribution of muscle tissue and body fat. The pituitary gland produces an influx of sex hormones in the bloodstream, so girls produce more oestrogen and boys more testosterone. The individual becomes capable – biologically at least – of producing and nurturing children. Boys start producing sperm (around the age of 15); girls start their menstrual cycle. This transition is typically known as puberty.
- A cognitive perspective would view adolescence as the period when the Piagetian notion of formal operational thought develops – this allows for the consideration of new beliefs and

possibilities.

Then you may wish to outline Erikson's ideas: in the 1950s he put forward an assumption that adolescence is a period of stress and uncertainty brought about by intense physical change which causes a crisis in identity. He also put forward the notion of a psychosocial moratorium. This refers to a temporary suspension of activity during the period of identity formation when the adolescent is moving between childhood (when identity is clearer) and adulthood (when a new identity has to emerge). This is seen as the dominant task of this age group and its eventual resolution forms the basis of adult identity. You then need to briefly evaluate Erikson's approach. You may wish to mention Marcia's work which was an extension of Erikson's and was an attempt to make it more empirically robust – the use of a semi-structured interview – and therefore more useful.

Your focus should be on physical change and the development of identity. Therefore, you need to introduce the concept of body image. According to Croll (2005), body image is the dynamic perception of one's body – how it looks, feels, and moves. The notion of it being dynamic suggests it is constantly under review and is not fixed. It is therefore open to influence. The physical changes taking place during puberty represent constant challenges to a teenager's self-image. Body image is shaped by perception, emotions, physical sensations, mood, physical experience, and environment. It is influenced strongly by self-esteem and self-evaluation, cultural messages, norms and societal standards of appearance and attractiveness. Croll (2005) argues puberty for boys brings characteristics typically admired by society – height, speed, broadness, and strength, whereas puberty for girls brings with it characteristics often perceived as less laudable – girls generally get rounder and have increased body fat. These changes can serve to further enhance dissatisfaction among girls going through puberty.

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Psychology

PEARSON BACCALAUREATE

Worksheet 7.1

Example answer to practice question 1 (Chapter 7)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

1 To what extent do biological factors influence one or more health-related behaviours? [22 marks]

I have chosen to address this question in the context of two health-related behaviours: alcoholism and obesity.

Alcoholism can be defined as a disabling addictive disorder characterized by a compulsive need for alcohol that leads to negative effects on the drinker's physical, emotional and social health. As with other drug addictions, alcoholism is seen by Western medical establishments as a treatable disease. It is characterized by an incremental physiological tolerance for the drug. There are serious biological consequences for alcoholics such as brain shrinkage, liver disease and strokes.

There are strong hints of biological determinism in alcoholism. For example, alcoholism runs in families and is particularly prevalent within male bloodlines. According to the US Centers for Disease Control, about 17% of men and 8% of women in the USA become alcoholics at some point in their lives, suggesting a biological trait linked to gender. However, addiction is linked to risk-taking behaviour and a tendency to favour short-term over long-term rewards, which may go some way to explaining why addiction is more prevalent in men than women. Alcoholism is more likely to develop in those exposed to the drug early. This suggests alcohol can influence the development of the adolescent brain.

Cross (2004) cites Enoch who speculates genetic predisposition manifests itself in different ways in different racial and cultural groups. For example, Enoch found some members of a Native American tribe who are exposed to environmental stresses such as poverty, trauma and deprivation, and have a certain genotype seem to be protected against alcoholism. But the same genotype expressed in European men is associated with late-onset alcoholism and increased alcohol consumption. She speculates that this genotype leads to an anxious personality and that Europeans who have this type of personality may drink to relieve anxiety as is the norm in this culture. However, in Native Americans, a more cautious temperament may actually protect against drinking excesses as the individual will be more sensitive to the effects of alcoholism and seek to avoid them.

Lingford–Hughes used brain-imaging techniques to look at the number of GABA receptors in the brains of alcoholics. He found fewer receptors in the frontal lobes of alcoholics' brains compared to non-alcoholics. GABA is thought to be involved in calming the body, fewer GABA receptors would suggest a greater susceptibility to anxiety and therefore an increased likelihood of alcohol consumption in certain cultural groups. However, it is not clear if the brain differences are a cause or consequence of alcohol susceptibility.

However, in the modern Western world, manufacturers of alcoholic drinks spend a great deal of money convincing people that alcohol is a desirable and an appropriate lifestyle choice from which the user will receive positive consequences. For many adults, it would be very difficult to imagine socializing without drinks being available. Saffer and Dave (2003) found heavy advertising by the alcohol industry in the USA has such a considerable influence on adolescents that its removal would lower underage drinking. Snyder et al. (2006) found that youths who saw more alcohol advertisements drank more, on average. They also found young people from markets with more alcohol advertisements showed increased drinking levels into their late 20s, whereas drinking reached a plateau in the early 20s for young people from markets with fewer advertisements. Therefore, while there are strong biological links to alcoholism, sociocultural factors regulate and heavily influence how people perceive alcohol and why they ingest it. It should also be noted that genetic predisposition does not determine behavioural destiny and families without a history of alcoholism can still produce alcoholics.

According to the World Health Organization, obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health. Most cases of obesity are caused by poor diet (characterized by cheap, highly processed food), lack of exercise and lack of self-discipline. However, there are some biological factors that may explain obesity.

Some obesity may be connected with very rare genetic disorders, such as Froehlich's syndrome in boys, Laurence–Moon–Biedl syndrome and Prader–Willi syndrome. There will also always be biological variations in energy intake for individuals and basal metabolic rate may well be under genetic influence (although definitive studies do not yet exist). Other bodily processes such as the rates of carbohydrate-to-fat oxidation and the degree of insulin sensitivity, which are closely involved in energy balance and therefore body weight (Ravussin, 1993), may also play a part. But these processes alone cannot account for the rapid growth of obesity in society nor the obesity within individuals. There have always been different body styles in human history but never has the human body been so overweight on such a scale before. The evidence is weak for innate predetermined factors in individuals to explain the obesity epidemic but that does not mean other physiological mechanisms influence appetite and weight gain.

Kessler (2010) argues food is designed by corporations to make consumers become conditioned hypereaters: 'conditioned' because food intake becomes an automatic response to widely available food, 'hyper' because the eating is excessive and hard to control. For example: Higher sugar, fat and salt intake actually make the individual want to eat more as they make the intake of food compelling for the brain. Neurons are stimulated and release dopamine, a chemical that has been linked with making people want to eat more. Food manufacturers understand this and deliberately engineer food to be 'compelling'. Therefore, food is engineered to produce a bliss point thus maximizing the chances of the consumer eating more as well as receiving positive rewards for eating the product.

However, despite this evidence, biological determinants to explain obesity are not as convincing as sociocultural explanations. The social learning theory assumes people learn behaviour via processes present in the environment or culture (e.g. modelling and conditioning) via reward and punishment. Wilkinson (2010) reported

on a British study that analysed 12 000 3-year-olds who were raised either by their grandparents or by their

parents. The study suggests the risk for becoming overweight was 34% higher if grandparents cared for children full-time. It was further suggested that this was connected to grandparents using food as a reward for good behaviour as well as being less inclined to restrict children's urges. Corporations spend huge amounts making food desirable by paying celebrities and sports stars to provide positive associations with food high in empty calories. This is compounded by modern sedentary lifestyles characterized by a lack of physical exertion and constant eating. Therefore, while there are some biological determinants that influence excessive calorie intake, the emphasis for future research should be firmly on why people fail to heed health warnings and commit to lifestyle choices that endanger their health.

Psychology

Worksheet 7.2

Additional practice questions for Chapter 7

1 Explain factors related to the development of substance abuse or addictive behaviour. [22 marks]

2 Discuss prevention strategies and treatments for overeating and obesity. [22 marks]

3 Discuss the effectiveness of health promotion strategies. [22 marks]

Answer guidelines

1 The command term *explain* asks you to give a detailed account and explain the underlying rationale.

You need to clearly identify the substance you have studied: alcohol.

You should start with the definition of a substance. A substance is anything an individual ingests to alter their cognition (thought processes), behaviour or affective state (mood). There is a social paradigm to substance abuse as a person is said to be addicted when the behaviour leads to a significant impairment in their ability to meet their obligations in employment, relationships and/or the community.

The factors we considered were physiological and sociocultural (including advertising). These are broad terms and you need to break them down further.

Physiological factors

Cross (2004) cites Enoch who speculates genetic predisposition manifests itself in different ways in different racial and cultural groups. Enoch speculates a certain genotype may lead to an anxious personality and Europeans who have this type of personality may drink to relieve anxiety as is the norm in this culture. However, in native Americans, the same genotype may protect against drinking excesses as the individual will be more sensitive to the effects of alcoholism and seek to avoid them. Lingford–Hughes found fewer GABA receptors in the frontal lobes of alcoholics' brains compared to non-alcoholics. GABA and its receptors are thought to be involved in calming the body. So fewer of them suggests a greater susceptibility to anxiety and, therefore, an increased likelihood for alcohol consumption in certain cultural groups (also cited in Cross, 2004).

You should note for the examiner: Genetic predisposition does not determine behavioural destiny – biological architecture does not automatically mean an individual will become an alcoholic.

Sociocultural factors

Social learning theory assumes behaviour is the result of reinforcement, punishment or observational learning. In the West, alcohol advertising is widespread. Saffer and Dave (2003) found heavy

advertising by the alcohol industry in the USA has such considerable influence on adolescents that its removal would reduce underage drinking. Their analysis suggests eliminating alcohol advertising in a local setting could reduce monthly drinking by adolescents from about 25% to about 21%, and binge drinking from 12% to around 7%.

Snyder et al (2006) found that youths who saw more alcohol advertisements drank more on average. Dring and Hope (2001) studied the impact of alcohol advertising in Ireland and found that alcohol advertisements were identified as their favourites by the majority of teenagers surveyed. Most of the teenagers believed the majority of the alcohol advertisements were targeted at young people. The teenagers interpreted alcohol advertisements as suggesting, contrary to the code governing alcohol advertising, that alcohol is a gateway to social and sexual success and as having mood altering and therapeutic properties (cited in the Institute of Alcohol Studies fact sheet).

2 The command term *discuss* asks you to present a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.

In this context, 'balanced' means making an appraisal by weighing up the strengths and limitations of each treatment and prevention strategy.

You need to outline the strengths and limitations of education, political intervention, grass roots movements, dieting, self-help groups and surgery. You may want to develop the notion of volition as an overriding theme – the idea that few prevention strategies or treatments can be effective until people want to lose weight.

The question is *plural* in nature. You need to discuss more than one strategy and treatment. You also need to clearly divide your answer between prevention strategies and treatments.

Prevention strategies

These aim to curb behaviour and influence opinion before the onset of obesity.

- Political intervention is a top-down approach from local or national governments. They can mandate laws regarding zoning – laws which govern where fast food outlets can open. Currently, fast food outlets are often in abundance in predominantly poor areas and this has an impact on wider community health. Mair et al (2005) cite Ashe et al (2003) who discuss how local communities can use zoning laws to create a retail market offering healthier foods – wealthier neighbourhoods have been shown to have over three times as many supermarkets as the lowest-wealth neighbourhoods. Supermarkets have been linked with healthier diets because a greater range of food is available than from fast food outlets. At the same time, residents of poorer areas have less access to private transport thereby limiting their chances of visiting places with healthier food available.
- The USA can be criticized for high levels of obesity but it is also the home of a significant

number of community-based organizations which aim to benefit people – often overcoming political or corporate power in order to do so. Groups such as the Campaign to End Obesity, Two Angry Moms, Queen of Hearts Foundation, the National Action Against Obesity (NAAO) and Obesity Action have made a significant contribution to the community landscape via media appearances, school visits and local organizing. According to Otto and Aratani (2006) many school districts in the USA have now banned soft drinks, junk foods and sweets from school vending machines and cafeterias in response to pressure from parents and anti-obesity groups.

Treatments

Treatments for obesity approach the problem after it has occurred.

- Geissler and Powers (2005) argue the key to weight loss is new habits associated with food and exercise. A healthy diet is not the same as dieting. Dieting is associated with a food programme designed to limit energy intake. Therefore, by definition, the individual has to consume less energy than he or she uses over period of time. Many people who wish to lose weight find that diets do not work. Geissler and Powers argue that high levels of compliance and motivation, and a willingness to accept new diets and lifestyles are needed for dieting process to be a success. These standards are often difficult to achieve and patients who undergo weight loss trials can be dishonest about what they eat. To improve adherence, consideration should always be given to a patient's food preferences as well as educational and socio-economic circumstances. Achieving behavioural as well as cognitive change – seeing food in a new way and understanding the challenges – is the key to success with dietary weight-loss programmes.
- Gastric bypass procedures (GBP) are an extreme approach to treatment. These refer to surgeries leading to a marked reduction in the functional volume of the stomach, accompanied by an altered physiological and psychological response to food. The aim of the surgery is to reduce the amount of food consumed as well as making the patient feel a level of fullness after ingesting only a small amount of food. However, the reduced size of the stomach pouch means a very disciplined approach to food is needed for the rest of the patient's life if the person is to receive adequate nutrition. Also, there is a danger of death connected with the procedure.

  There are other complications: Adams et al (2005) researched 43 post-operative patients and discovered that almost all of them tested positive for a hydrogen breath test, suggesting an overgrowth of bacteria in the small intestine. The overgrowth of bacteria causes the gut ecology to change and induces nausea and vomiting. Recurring nausea and vomiting change the rate at which food if absorbed and this exacerbates the vitamin and nutrition deficiencies common in gastric bypass patients. The change in internal structure of food-absorption areas also prohibits the adequate absorption of some essential minerals and nutrients and a carefully designed diet has to be followed as a result. However, psychological change enables most patients to enjoy participation in family and social activities which they previously could not enjoy because of

their obesity.

3 The command term *discuss* asks you to present a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence.

In this context, 'balanced' means making an appraisal by weighing up the strengths and limitations.

You need to clearly define health promotion strategies. Health promotion can be defined as the science and art of helping people change their lifestyle to move toward a state of optimal health (Minkler, 1989). Health promotion strategies have to be measurable to determine their success as well as influence future policy. We looked at a measurement of outcomes approach and population health approach (e.g. workplace health promotion). You should clearly state that for health promotion strategies to be effective they have to induce cognitive dissonance but emotional dissonance should also be taken into account when considering any strategy designed to cause cognitive dissonance.

Measurement of outcomes approach

The measurement of outcomes perspective uses an evidence-based treatment (EBT) approach and rests on the assumption that research into health campaigns has to produce statistically significant data to show an effect of the health strategy. It is an attempt to standardize the measurement of health and the effects of treatments or interventions.

EBT approaches consider the notions of:

- efficacy – the relative improvement in health as the result of an intervention in a controlled randomized trial (essentially a scientific based approach)
- effectiveness –the relative improvement in health as the result of an intervention in a more realistic, everyday setting.

Advantages

- Differences between efficacy and effectiveness can be identified.
- EBT can help identify hazardous interventions which may only show up in large datasets.
- EBT is used to monitor changes during treatment over time. Setting up a scientific approach to data collection negates the effects of subjective variables such as individual memories.

Disadvantages

- EBT requires a clearly defined population and a reasonable control of variables within it – this is often unrealistic.
- Reliance on the underlying scientific principles of EBT is unrealistic as many non-measurable

variables (e.g. culture and self-belief) affect health outcomes.

- Appraisals of health should always consider the everyday and personalized variables that may influence susceptibility to campaigns and the will power to adopt healthier personal habits. These are difficult to quantify.

Population health approach

Population health approach (PHA) is defined as health promotion actions which are primarily targeted at the societal, community, structural or systems level.

Using a PHA has many advantages as it requires the collaboration of multiple agencies (government, business and voluntary organizations) working in the fields of environment, transport, education and corporate regulation as well as health.

However, as a macro method a PHA has inherent disadvantages. According to Frohlich and Potvin (2008), population-approach interventions may be compromised by inconsistencies between the social and cultural assumptions of public health practitioners and the targeted groups at whom the health promotion strategy was aimed. Therefore, any PHA has to take account of the various cultural and sub-cultural subtleties of those groups in wider society. Such groups include women and men and varying ages, religious affiliation, sexual orientation, cultural background and dietary habits. Different sub-cultures may have differences regarding local health providers and resources, attitudes to health, and different behaviours stemming from cultural background and norms, education levels, transport needs, incomes and experiences with health care professionals (e.g. homophobia, racism and sexism).

A more focused area for health promotion is the workplace. This is an area where people spend a significant amount of time and which can also influence mental, social and economic well-being. Workplace health promotions might also be called ‘workplace health promotion programmes’ or ‘worksite wellness programmes’ and they promote activities such as exercise and stress management as well as information about nutrition and how to stop smoking. In this way, employees can be taken out of sub-cultural groups (as they are simply under the same banner of ‘employee’) and have health information delivered through a workplace paradigm. Workplace health promotion is therefore very effective at reaching large numbers of people from different cultural groups who would not ordinarily gather in one place.

Chapman (2005) conducted a review of worksite health promotion and outlined a series of meta-analysis studies published between 1982 and 2005. He found worksite health promotion produced on average a decrease of 26.8% in sick leave absenteeism, a decrease of 26.1% in health costs and a decrease of 32% in workers’ compensation costs. Another effective aspect of worksite health promotion is that it provides a ready-made large audience for health promotion messages.

Psychology

Worksheet 8.1

Biological and cognitive factors influencing violence

Biological factors

The movie *Once Were Warriors* is a New Zealand film based on the book of the same name by Alan Duff. It depicts a period in the lives of a Maori family living in South Auckland and the movie quite brutally displays the domestic violence that is a problem for the family, ending with the separation of the abusive husband and his wife and showing the effects of the violence on the lives of their children.

Soon after the release of the movie, a biological theory about the origins of violence was reported, which suggested that there is a 'warrior gene', and that this specific variant of a gene might account for increased levels of violence among individuals, and that certain ethnic groups who have a recent history of tribal fighting tend to have the warrior variant. The Maori people of New Zealand are one such group.

The gene identified is responsible for the production of monoamine oxidase (MAO), an enzyme that breaks down serotonin, dopamine. Male mice with a particular variant of the gene have been found to be aggressive. There is evidence from a Dutch family with a dysfunctional variant of the gene and more-than-average antisocial behaviour, but little other human evidence. The term 'warrior gene' was originally coined when Rhesus monkeys with a low-activity MAO gene were found to be more aggressive (Merriman and Cameron, 2007). Although the hypothesis that such genetic tendencies for aggression might have been selected through evolution seems to have some face validity, the findings have been misused: criminal behaviour cannot be explained by a gene for aggression alone (Lea and Chambers, 2007). However, the findings have been used internationally: a man convicted of murder in Italy had his sentence reduced when his lawyers were able to show that he had the 'warrior' variant of the MAO gene (Ahuja, 2009).

References

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Lea R, Chambers G. (2007). Monoamine oxidase, addiction, and the 'warrior' gene hypothesis. *Journal of the New Zealand Medical Association* 120(1250). www.nzma.org.nz/journal/120-1250/2441/ accessed 8 October 2010

Merriman T, Cameron V. (2007). Risk-taking: behind the warrior gene story. *Journal of the New Zealand Medical Association* 120(1250). www.nzma.org.nz/journal/120-1250/2440/ accessed 8

October 2010

1 To what extent do you agree that criminal behaviour cannot be explained by a gene for aggression? What arguments should be used against such a claim?

2 Is it appropriate to reduce criminal sentences on the basis of genetic knowledge?

Cognitive factors

A cognitive explanation for violent behaviour is examined by Bushman (1998). According to this explanation, a child growing up builds scripts, which are perceptual images and conceptual representations of events that take the form of vignettes (short sequences of behaviour). When a script is stored in memory, it can be accessed to guide behaviour when a person finds him- or herself in a similar situation. Bushman (1998) conducted two experiments to investigate the cognitive basis of aggression. The first experiment asked participants to view a clip from a violent film (*Karate Kid III*) or a non-violent film (*Gorillas in the Mist*) and then complete a word-association task, stating the first word they thought of in response to a set of homonyms (words with different meanings that are spelt the same). 200 undergraduate psychology students (87% white, 50% female) were asked to respond to a list of words including words judged by their peers to be aggressive, such as murder and torture, homonyms such as cuff, plaster, pound and sock, and non-aggressive words like feather and snail. Those who watched the violent film were significantly more likely to provide aggressive responses to all word types, and male participants were more likely than female to do this.

In a second experiment, even more participants were asked to identify whether a set of letters was a real English word (such as SOCK) or a non-word (such as GOCK). When the letters made an aggressive English word, response times were significantly faster if the participants had seen a *Karate Kid III* clip than if they had seen a *Gorillas in the Mist* clip.

The conclusion from this research is that we carry scripts in our head for violence, and these experiments were able to activate the violent scripts and therefore influence subsequent word-identification behaviour. This can be used to explain why media violence is associated with increased violent behaviour: television and film in particular provide activation for violent scripts, and when similar contexts in real life are encountered, people are primed to act violently.

Reference

Bushman, B.J. (1998). Priming effects of Media Violence on the Accessibility of Aggressive Constructs in Memory. *Pers Soc Psychol B* 24:5, 537-545

1 To what extent is Bushman's work valid? Evaluate the study.

2 It is commonly thought that media violence is associated with real violence in the community. How important is it to be able to explain *why* this happens?

Psychology

Worksheet 8.2

Reducing domestic violence through group therapy programmes

One of the biggest problems we face in evaluating research into the reduction of domestic violence is that it is difficult to know whether *some* reduction is the intended outcome, or if we are aiming for the elimination of violence. When a group treatment intervention is carried out, do *all* members need to show improvement? When an individual approach is taken, do we expect it to have immediate and permanent effect, or do we allow for lapses? Dunford (2000) suggests that these questions are less important than another one: Is there more improvement than there would have been without intervention? This suggests that the most important type of evidence for researchers to gather is experimental, particularly where individuals are randomly assigned to treatment and non-treatment groups and any changes compared.

1 What problems are likely with an experimental approach? Consider problems of sampling, ethics, and both researcher bias and demand characteristics.

Two experiments that address the problem of violence reduction in this way are Dunford's own San Diego navy experiment, which randomly assigned 861 husbands who had assaulted their wives to three different treatment conditions and a control condition, and the Broward County experiment (Feder and Dugan, 2002), which randomly assigned 404 males convicted of domestic violence battery to either the control group which received probation as normal, or to the treatment group, which received probation and counselling.

2 What advantages and disadvantages could there be of having participants from the navy when you have the navy's full support for the intervention and the experiment?

The San Diego navy experiment (Dunford, 2000) compared outcomes for two groups receiving 6 months of cognitive–behaviour group therapy (either a men-only group or a group also including partners), a rigorous monitoring group, who were paid extra attention by a case manager and client commanders, and a control group receiving no services. Husbands and wives were interviewed four times during the study: at the beginning, immediately after treatment, and then 6 and 12 months after treatment had finished. Apart from official arrest records for violence against the wives during this period, the researchers also used interview data to determine if violence was ongoing, specifically checking for incidences when the victim felt endangered, was pushed or hit, or was physically injured. The researchers found that there was no significant difference between any of the treatment groups and the control group. For example, 6 of the men in the control group (4%) were arrested during the 12 months after the treatments stopped, compared with 10 in the rigorous

monitoring group (5.8%) and 6 in the CBT group involving both partners (2.6%). It was therefore concluded that none of the interventions tested were effective enough to justify their use.

3 Identify the independent and dependent variables in this study. What problems are there in defining and measuring these? Did Dunford do it well?

The Broward County experiment in Florida (Feder and Dugan, 2002) compared outcomes in just two groups randomly assigned according to the randomly generated final digit of their court docket as mentioned above: probation only, and probation plus 26 weeks of group treatment according to the Duluth model (at one of five different centres, assignment to which is not explained). Judges changed this assignment for 14 men who should have been in the control group. Although in experimental situations like this, the control group often receive informal 'treatment', the researchers found that there were no significant differences in the amount of probation attention received or the number of alcohol and drug programmes they engaged in.

The men involved ranged in age from 19 to 71 and were mostly married or living with a female partner. The vast majority of them, regardless of the large number of previous criminal records among the sample, had not been arrested for domestic violence before this occasion. African–Americans were over-represented in the sample, as were men from lower socio-economic status groups.

Outcomes were measured through checking police and probation records and interviews with the men and victims (only those who consented) at 6 and 12 months after the beginning of the study, with interviews including some standardized social desirability questions to determine if offenders or victims might be lying. They used questions from the Inventory of Beliefs About Wife Beating Scale, the Conflict Tactics Scale and the Attitudes Toward Women Scale to construct their interviews. To assist in their analysis of results, researchers kept attendance records for the treatment sessions. They found that 13% attended none, and only 29% attended all sessions without missing any. Missed sessions had to be made up later. From the control group, 3% voluntarily attended similar treatment classes.

The researchers found that there was no significant difference between the CBT/Duluth model and the control group in terms of offenders' attitudes, either in terms of final difference and change over time. The same was found for victims' attitudes. Neither offenders' nor victims' reports of violence changed significantly over time, but the police records did allow the researchers to find a significant association in the treatment group between number of sessions attended and likelihood of arrest. After a thorough analysis of their data, the researchers concluded that those who attended all of their sessions, as instructed in court, would have avoided re-arrest anyway, as they were significantly more likely to be older and have a longer employment history, these two demographic variables predicting both adherence to the programme and lack of re-arrest. Thus it appears that having more to lose (described as 'high stake-in-conformity') is a predictor of positive response to the conditions

of probation, but nobody in the study showed any genuine change in attitude, only response to threat.

4 Using all the information gathered so far, make a note of strengths and limitations of group treatment for domestic violence offenders below:

Strengths	Limitations

5 Discuss what you have put in the table with at least one other person in your class and add anything you have missed. What conclusion do you reach about the effectiveness of programmes like this? Be sure to explain the importance of the idea of a 'high stake-in-conformity'.

6 (for whole classes only) Divide into groups of three or four and construct arguments in response to the question: Where should the money for reducing domestic violence go? More advanced classes with more time might like to research how much their local authorities spend on this and how it is currently achieved.

The class carries out a 'tendering' process: each group presents its argument then the class votes on which presentation is the most convincing. Consider inviting a local judge, lawyer, psychologist, social worker or council representative to see your presentations. Perhaps you can make a difference.

References

Dunford FW. (2000). Determining program success: the importance of employing experimental research designs. *Crime Delinquency* 46(3):425–34

Feder L, Dugan L. (2002). A test of the efficacy of court-mandated counselling for domestic violence offenders: the Broward experiment. *Justice Q* 19(2):343–75

Psychology

Worksheet 8.3

Example answer to practice question 1 (Chapter 8)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

1 Contrast **two** theories of altruism in humans. [22 marks]

Two theories of altruism in humans are the kin selection hypothesis and the empathy–altruism hypothesis. Both of these theories will be briefly described and then differences will be addressed, specifically focusing on the assumptions underlying them, the extent to which they have empirical support, and their overall validity.

The kin selection hypothesis is an evolutionary psychology theory, based on the assumption of the biological level of analysis that behaviour can be inherited. The theory suggests that altruism is an evolved response that exists in humans now because such prosocial behaviour has in the past provided a survival advantage: specifically that when we help those who are closely related to us and therefore share genes with us, we increase the chance of the family genes being passed on to future generations. The empathy–altruism hypothesis also addresses biological factors, assuming that seeing a person in need sparks an emotional response in humans. A key difference between the two theories is that the empathy–altruism hypothesis then focuses on cognitive factors that determine how the person will respond to the event, arguing that the decision to act depends on factors such as how strong a victim's need for help seems to be. This means that while one theory focuses only on the biological basis of helping behaviour, the other focuses on the way people process information in a particular situation.

Both theories have been researched, and have empirical support, but there are important differences in the way this research is done and how confident we can be about the researchers' conclusions. The kin selection hypothesis, as an evolutionary theory, is more difficult to test. Sime (1983) reported that when people fled a burning building, they were more likely to stay together if they were related. There is also evidence from Piliavin et al.'s (1969) bystander intervention experiment in the New York subway that we are more likely to help people who are similar to us. This could be because their physical similarity is a sign of genetic similarity and is therefore preferred. Madsen et al. (2007) studied the theory in the UK and South Africa by asking participants to perform a physically uncomfortable task in order to make a small amount of money for relatives of varying closeness, and found that participants were indeed more willing to suffer for the benefit of the closest relatives. Although this provides valuable cross-cultural support for the kin selection hypothesis, there are possible alternate explanations for the results: the variable of relatedness cannot be manipulated by researchers, limiting them to quasi-experiments, which prevents clear isolation of cause and effect.

Because the empathy–altruism hypothesis, like many cognitive theories, presents ideas that can more easily be tested in true experiments, there is stronger empirical support for the influence of the variables that researchers consider important. For example, when Toi and Batson (1982) manipulated levels of empathy by asking participants to listen to an interview in different ways, it became apparent that the level of empathy was the most important determinant of whether participants would offer to help a person they thought was a fellow student. This means that although kin selection might be an important contributing factor to a decision to help, it does not have as clear a role as empathy. On the other hand, it is very difficult to be sure that results from laboratory experiments like this, which focus on the cognitive level of analysis, have ecological validity: the task and location may affect what people say about how they will act. Research on the kin selection hypothesis can involve more realistic situations and genuine behaviour rather than predictions of behaviour.

With these ideas in mind, we can finally contrast the two theories in terms of their overall validity. Kin selection is a hypothesis that has been tested across cultures, in real situations, and that has good face validity: it sounds logical that we would be genetically inclined to help biological relatives, even if it is difficult to test experimentally. Even if definitions of kin may be broader or narrower in different cultures, the core idea seems appealing. On the other hand, the empathy–altruism hypothesis is less easy to test cross-culturally and it is easy to see how empathy, a concept that is difficult to describe and measure, could be more important in some cultures than others. Bystander intervention research has shown, for example, that situational variables have a very powerful effect on people's behaviour regardless of their levels of empathy.

The two theories are different in several ways, perhaps most fundamentally in terms of the assumptions underpinning them: it is possible that they both have explanatory power but simply focus on different levels of analysis, which therefore gives them strengths and limitations that are typical of research at their respective levels.

Psychology

Worksheet 8.4

Additional practice questions for Chapter 8

1 Evaluate **two** studies relevant to the study of human relationships. [22 marks]

2 Contrast the role of biological and cognitive factors in explaining prosocial behaviour. [22 marks]

3 To what extent do sociocultural factors explain interpersonal violence? [22 marks]

Answer guidelines

1 This is a very clear question. You should begin by choosing two studies that you know in sufficient detail to provide a meaningful evaluation. Studies that might be good for this include Madsen et al. (2007) and Toi and Batson (1982), but there is a range of other possibilities. The studies do not need to be related to each other, but you may find it easier to evaluate them if you are able to compare and contrast their strengths and limitations.

Plan your answer so that you begin initially with a description of the study. Do not go into too much detail but provide enough information that the aim, procedure and findings are clear. The procedure is likely to be particularly important for this question as that is where many of the strengths and limitations can be found.

Following the description of the study, evaluate it by explaining strengths and limitations (see Chapter 2 for how you can best evaluate studies). Consider (where appropriate) how the sample was obtained, whether there were ethical problems with the study or if in avoiding ethical problems the study has low ecological validity, if participant or researcher expectancies may have altered the results, and so on. Bear in mind that it is not sufficient to state that a study lacks ecological validity – you need to make it clear how the study is lacking and show that you understand why it is important. Using correct terminology is a good start, but by itself is not enough.

Repeat this for your second study. You should come to a conclusion as the definition of the command term suggests you need to make an appraisal. Make sure you provide this after evaluating each of the studies: a few sentences to explain what your judgement is about the quality of the study and the validity of the conclusions will be sufficient.

2 This question requires you to choose a set of biological and cognitive factors to contrast their role in prosocial behaviour. It is a good idea to begin by listing the cognitive and biological factors in a table and to add the names of researchers that you can remember. There is an online resource available for this chapter that can help you check if you have done so adequately.

After identifying the material you are going to write about, you can begin with an introduction that

details what factors you are going to address and in what way biological and cognitive factors are different. Key differences include a different emphasis on decision to act (cognitive) and an instinct to act (biological) and the kind of people that are likely to be helped as a result of these. It is also important to note that biological and cognitive factors are both likely to be involved in any person's decision to intervene and it would be a good idea to demonstrate how they might interact with each other: they are complementary forces. Remember: to gain marks for knowledge and comprehension, you need to refer to studies; to gain marks for critical thinking, you need to include evaluation of research and theory. This is why a brief consideration of the quality of the research available for the biological and cognitive factors chosen is important, preferably spread all through your answer and summarized at the end.

3 Specify in your introduction that you will deal with sociocultural factors relating specifically to domestic violence and explain how your answer will be set out. You should begin with an explanation of what domestic violence is and what factors are known to affect it.

The most important ideas to include are social learning theory and the culture of honour. There is more information about social learning theory and violence in Chapter 4. Don't forget to make frequent reference to research and let your evaluation of this research influence your decision about how powerful the effect of these factors is on domestic violence.

You might also like to consider some other factors that are sometimes thought to influence violence. Check your online resource detailing cognitive and biological ideas about violence, including the genetic explanation. You could also make reference to homicide adaptation theory from Chapter 2. Although biological theories attempt to explain the instinct for violence, they tend not to be well supported by good quality research and there is a compelling argument made by sociocultural theorists that your evaluation should result in the conclusion that sociocultural factors have a very important role in psychologists' explanations for violent behaviour.

Psychology

Worksheet 9.1

Coaches' predictions about future success

A number of approaches to identifying talent have been created, and the success of these methods is of immense importance to major sporting teams, as for example in the National Basketball Association of the United States where young players are drafted out of college. Choosing a player who will perform well at the highest level can yield significant financial rewards and influence the performance of the whole team.

One approach to identifying talent involves the use of anthropometric and physiological data such as height, reach, vertical jump and both aerobic and anaerobic fitness. Gabbett et al. (2007) carried out an investigation to determine how useful this approach is in scouting for volleyball talent.

Participants in the study were 28 junior volleyball players with an average age of 15.5 years who were part of a talent search programme and had limited experience in the sport but had been judged appropriate in terms of anthropometric and physiological characteristics. A set of skill tests were carried out for the skills of spiking, passing (also called digging), setting and serving. Accuracy was measured according to how many times participants could hit a target, and technique judged by two coaches who did not have any information about how experienced the players were. After selection for a training squad had been made, using only subjective coaching opinions, the data collected from the players were analysed to see if the measures used were able to distinguish between the selected and non-selected players.

The results indicated that there was no significant difference in the anthropometric and physiological characteristics measured between the selected and non-selected players, and only the subjective evaluations made by coaches regarding technique in passing and serving were found to be significant predictors of success.

Reference

Gabbett T, Georgieff B, Domrow N. (2007). The use of physiological, anthropometric, and skill data to predict selection in a talent-identified junior volleyball squad. *J Sport Sci* 25(12):1337–44

1 How would you describe the method of this study? What typical strengths and limitations are there of this method?

2 What specific strengths and limitations does this study have? Focus particularly on validity.

3 To what extent does this study demonstrate that a self-fulfilling prophecy may occur when players selected by coaches for special attention turn out to be successful?

Psychology

Worksheet 9.2

Burnout in athletes

Although we commonly hear about top-level athletes burning out, researchers have not focused exclusively on elite athletes. It may be more important that coaches and psychologists are able to prevent burnout in younger athletes as there are more of them, and the consequences of burnout at critical times can, in many cases, be at least as devastating as for higher-level athletes.

Consider the value of the two following studies.

Duda and Gano–Overway (1996) conducted a thematic content analysis of interview data gathered from 75 girls aged of 9–12 in a US national gymnastics team, using a structured interview based on a questionnaire dealing partly with stress. Questions included: In gymnastics, what do you find most stressful? What makes you feel really nervous? The sources of stress identified were as follows (in descending order of frequency).

1 Performance of skills, particularly new skills; skills performed for the first time in competition.

2 Fear of evaluation, along with a fear being judged for mistakes by their audience.

3 Aspects of competition, such as presence of judges and significant competitors.

4 Making mistakes and worrying about making mistakes.

5 Expectations from self and others, particularly from coaches.

6 Time pressures, such as waiting or rushing.

7 Fear of injury.

8 Environmental conditions, such as slippery bars.

Based on these findings, the authors recommend that coaches establish a less judgmental learning phase to help improve confidence and hold simulated competitions to allow gymnasts to adapt to the pressured environment.

1 What problems could there be with interviewing a sample of children?

2 Based on the information you have here, do you feel that the authors' recommendations are justifiable?

At a higher level, Lonsdale et al. (2009) studied elite Canadian athletes from 51 different sports, with an average age of 22.9 years. They used an online survey to gather data about the satisfaction of basic needs (for autonomy, competence and relatedness), the nature of their motivation to engage

in their sport and the extent of any athletic burnout. Scores in each of these areas were then correlated with each other. The relationships they found were as follows:

- basic need satisfaction correlated negatively with athletic burnout
- controlled motivation (extrinsic, and regulated by others) and a lack of motivation correlated positively with athletic burnout
- autonomous motivation correlated negatively with athletic burnout

Of particular interest to the authors was that autonomy and competence did predict levels of burnout, but this appears to be mediated by levels of *self-determination* – meaning the degree to which athletes perceive their involvement to be motivated by the achievement of positive benefits, particularly those that are most congruent with their own sense of self. The most important burnout component that is moderated by self-determination is sport devaluation: losing a sense that the sport is an important or useful part of one's life. The researchers argue that the more physical side of burnout (the feeling of physical exhaustion) is not so affected by self-determination and may be affected more by physical overtraining.

3 What are the strengths and limitations of using an online survey rather than the interview approach used by Duda and Gano–Overway (1996)?

4 The design used by Lonsdale et al. (2009) is cross-sectional, meaning all data was collected from all participants at one time. They recommend using longitudinal research in future. Why?

5 If the findings of Lonsdale et al. (2009) are accurate, how would you modify, expand or clarify the recommendations made by Duda and Gano–Overway (1996) who are targeting much younger athletes?

References

Duda JL, Gano–Overway L. (1996).Anxiety in elite young gymnasts: Part II – Sources of stress. *Technique* 16(6):4–5

Lonsdale C, Hodge K, Rose E. (2009).Athlete burnout in elite sport: a self-determination perspective. *J Sport Sci* 27(8): 785-795

Psychology

PEARSON BACCALAUREATE

Worksheet 9.3

Example answer to practice question 3 (Chapter 9)

This model answer is a guide for students in terms of structure and content. It represents above-average work.

3 Evaluate **two** research studies investigating skill development in sport. [22 marks]

One of the main activities of sports psychologists is to assist coaches, teams and individual athletes in improving their sporting performance by focusing on developing the skills involved in the sport, not just through practice but through the use of techniques whose effectiveness has been tested in research. Two studies testing such techniques are Marlow et al. (1988), who worked with water polo players on their penalty-taking by teaching them to use mental imagery, and Hatzigeorgiadis et al. (2009), who worked with young tennis players using self-talk to improve performance, reduce anxiety and boost confidence. This essay addresses strengths and limitations of the studies mostly in terms of their validity and usefulness.

Marlow's study used a single-subject design with three participants who had said they had never used mental imagery before. They were taught a pre-performance ritual that included two forms of mental imagery: imagining themselves taking the penalty from their own perspective (internal imagery) and from an observer's perspective (external imagery). They were prohibited from physically practising penalty taking for the duration of the experiment, so that it was clear to the researchers that the improvements they measured against a baseline measure were not a result of practice. Although this attempt to control an extraneous variable is clearly a strength, there are many limitations to the study. Because the research only used three participants, it may not generalize to a wider population of water polo players. However, it seems sensible that the researchers used a single-subject approach while the intervention is still relatively new: it is more useful to know that individuals show improvement in such an individual activity as penalty-taking rather than knowing about average changes in a group.

The major limitations are in terms of validity: it is very difficult to isolate cause and effect. The independent variable in this case, which was the training intervention, is too broadly defined. It is not clear how significant the individual parts of the ritual are: two types of imagery were used, as well as relaxation training and concentration focus. Although we know the whole ritual seems to have had an effect, we don't know if all of its components are necessary or if one of them was more responsible for the change. In addition, there is no control group, so we can't be certain that demand characteristics have not occurred. Demand characteristics include the placebo effect (where participants improve simply because of training, not because of the content of the training) and the Hawthorne effect (where participants improve because they guessed the purpose of the experiment, which was quite obvious in this case, and tried to obtain good results). A final weakness here is that we cannot be sure that participants genuinely carried out the ritual in their own time and that they were not affected by other thoughts or factors, such as their general performance in their games or the performance of other team

members.

Even if we accept that the performance ritual itself is responsible for the change, the measurement of the dependent variable also has some limitations. Strengths of the design that the researchers used include the experimental before-and-after approach (using the same method of measuring performance twice) and the attempt to improve reliability by using a numbered rating system with more than one rater for the penalties. However, we cannot be sure that researcher bias was not a problem in rating the players after the training: they may have wanted to see improvement, and although the numerical system seems objective, it depends on the opinion of the researcher, and it seems a difficult thing to judge a penalty on a scale of 1 to 10, where 10 represents a specific shot without a goalkeeper present. It is also an artificial task and would need to be tested in the context of a real game, where numerous other factors could interfere.

Overall, Marlow et al.'s study suggests that the ritual may be an effective way to help with skill development in this context, but the study was not carried out well enough for us to be confident about the validity of its results.

Hatzigeorgiadis et al. (2009) had a number of similar problems because they were dealing with an intervention that is difficult to quantify. They asked tennis players to use self-talk to help them focus their attention on their performance of skills and to motivate themselves. This study used a control group to help clarify whether the intervention was genuinely responsible for performance improvements, training them in technical aspects of tennis without any psychological intervention. This reduces the possibility that demand characteristics were a problem, but as the control group naturally also used some self-talk, the power of the intervention might be under-estimated. It is, however, a strength that the researchers asked all participants about their use of self-talk as it became necessary to remove data from participants in the experimental group who hadn't used self-talk.

Again, an artificial task was used to measure the success of the intervention, this time with participants asked to make a shot that went between the top of the net and a rope placed above it. Again, participants received points for their shots, but as only two points were available for each shot, it is unlikely that researcher bias was a problem, also points were awarded objectively according to how close the shot went to the opposing baseline. This means that we can be more confident that participants using self-talk performed better than participants who were not.

The validity of the researchers' conclusions that self-talk reduces anxiety is made stronger by the use of a standardized measurement instrument: the Competitive State Anxiety Inventory. We can be less certain about their finding of increased self-confidence because this was measured after the task. The researchers themselves noted this concern: the use of self-talk correlates with self-confidence after the task, but the confidence may be a result of completing the task well, rather than being the mechanism by which self-talk works.

Thus, this study of tennis players has a number of methodological strengths and the researchers are cautious about their results, because there are significant methodological limitations. Coaches could have some confidence in trying out self-talk as an intervention as it appears to improve the specific skill studied, but further research could be used to tease apart the role of motivational versus skill-focused self-talk.

Psychology

PEARSON BACCALAUREATE

Worksheet 9.4

Additional practice questions for Chapter 9

1 Compare **two** theories of motivation in sport. [22 marks]

2 Explain the role of goal-setting in the motivation of individuals and evaluate **one** study that investigates this. [22 marks]

3 Compare **two** theories relating arousal and anxiety to performance. [22 marks]

Answer guidelines

1 Your answer to this question should begin by explaining why motivation in sport is important and you should provide a brief definition of it. Follow this by identifying the two theories that you are going to write about: your choices include cognitive evaluation theory and achievement goal theory. Identify the ways in which you can compare the two theories. Think about the level of analysis and the principles underlying them; the type and quality of research available to support the theories; and, in particular, their usefulness in application to improve athletes' motivation. Before you start, it may help to draw a small table that helps you plan exactly what the similarities between the two theories are.

Remember that it is very important to show evidence of critical thinking throughout and this can best be achieved by remembering to provide evaluative points in relation to the studies you include, particularly in terms of the validity of the conclusions made and the reliability of measurement. The strengths and limitations of the empirical evidence for the two theories may have some features in common, for example if they rely on research conducted in artificial settings rather than in a more natural context.

2 Goal-setting has been proven time and again to be a very powerful motivational tool, partly because it seems to be a natural thing that people do, even without the assistance of others. Begin by explaining what goals are and the idea that behaviour can be described as goal-directed. Give a short example of how it could work in a real sporting context.

The majority of your answer needs to focus on a study involving goal-setting. One example is Schofield et al. (2005) who used pedometers and set goals for groups of girls in an experiment to try to increase levels of physical activity. This study has a number of strengths, including the use of three different groups to account for possible demand characteristics, and an experimental approach that allowed for some isolation of cause and effect. Limitations include the non-random assignment of participants to the three groups and the lack of information about whether motivation was

genuinely increased, or what type of motivation; for example, did the activity ever become truly intrinsically motivating?

3 Begin by identifying the theories you would like to compare. Two good choices for this question are the inverted-U hypothesis and optimal arousal theory. Before writing your answer, it is a good idea to quickly draw a small table and fill in the similarities you can think of. When you have done this, you can write an introduction that explains how you are going to approach the question.

As with comparisons of theories in other areas, you can compare the theories in terms of their level of analysis and the principles that underlie them, their validity, and the possibility and quality of empirical evidence available to support them. Remember when you address research that you should be able to identify some strengths and limitations.

An ideal study to include if you have chosen these two theories is Raglin and Turner (1993), who established a zone of optimal functioning for individual athletes and used this, compared with reports of pre-competition anxiety, to predict performance. Their results provide evidence against the inverted-U hypothesis. Unlike many theories in psychology, because these two theories are quite similar in a number of ways, it is unlikely that they can exist in a complementary way: if one of them is right, the other one is probably incorrect.

A brief conclusion could be used to summarize the main similarities you found.