GCE AS/A LEVEL

2290U20-1

S18-2290U20-1

PSYCHOLOGY – AS unit 2
Using Psychological Concepts

THURSDAY, 17 MAY 2018 – AFTERNOON

1 hour 30 minutes

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a WJEC pink 16-page answer booklet.
You may require a calculator and a ruler.

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use pencil or gel pen. Do not use correction fluid.
Answer **all** questions.
Write your answers in the separate answer booklet provided, following the instructions on the front of the answer booklet.
Use both sides of the paper. Write only within the white areas of the booklet.
Write the question number in the two boxes in the left hand margin at the start of each answer, e.g. **0** **1** .
Leave at least two line spaces between each answer.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.
You are reminded of the necessity for good English and orderly presentation in your answers.
Assessment will take into account the quality of written communication used in your answers.

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Answer **all** *questions in Section A* **and** *Section B.*

SECTION A – Contemporary Debate

0 1 Assess the role of the mother as primary care-giver, including consideration of social and cultural diversity. [20]

SECTION B – Principles of Research and Application of Research Methods

0 2 **a)** Define the term 'dependent variable'. [2]

b) Identify **one** variable measured in Milgram's (1963) 'Behavioral study of Obedience'. [1]

0 3 Using an example, describe a matched pairs experimental design. [4]

0 4 Explain the ethics of working with vulnerable individuals in Kohlberg's (1968) research 'The child as a moral philosopher'. [4]

0 5 Evaluate research that is conducted on-line. [6]

0 6 **a)** Define the term 'internal validity'. [2]

b) Define the term 'external reliability'. [2]

0 7 In Milgram's (1963) 'Behavioral study of Obedience' he chose to use a target population of male, self-selected participants. Explain how his choice impacted on the possible applications of the research. [5]

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0 8 A psychologist conducted an experiment into whether people who are bilingual (fluently speak two languages) have a wider vocabulary than those who are monolingual (fluently speak one language). 60 participants, chosen using snowball sampling, were asked to take a multiple choice on-line vocabulary test.

Average vocabulary scores for each group

	Average Score on the Vocabulary Test /100
Bilingual Group	75
Monolingual Group	62

a) State a research hypothesis for the above study. [2]

b) Describe how **one** extraneous variable could have affected the results for the above study. [2]

c) (i) Explain how the psychologist could have collected participants using snowball sampling in the above research. [4]

(ii) Give **one** disadvantage of snowball sampling. [2]

d) Identify and explain the experimental design used in the above study. [2]

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0 9 A psychologist used primary sources to see if longer beards made males more attractive to women. A correlational study was used, where photographs of 10 men with beards were taken and 20 women were asked to rate their attractiveness on a scale of 1-10 (1 = very unattractive, 10 = extremely attractive). The women's scores of attractiveness were then averaged, using the mean, to create one attractiveness score for each bearded man. The psychologist created the following frequency table to compare beard length to mean attractiveness.

Length of beard compared to level of attractiveness

Photograph number	Length of Beard (in cms)	Level of attractiveness (mean score out of 10)
1	5	6
2	8	4
3	10	4
4	2	8
5	1	9
6	3	7
7	6	5
8	3	4
9	2	7
10	4	6

a) Identify the aim of this research. [1]

b) Give **one** advantage and **one** disadvantage of using a correlational study in this research. [2 + 2]

c) Describe the term 'primary sources'. [3]

d) Explain how the mean score for attractiveness could have been calculated in this research. [3]

e) (i) Using the data in the table, draw a scatter diagram. [5]

(ii) State the strength and direction of the correlation shown in the scatter diagram you created in part (i). [2]

f) Describe **one** issue of validity in this research, and explain **one** way to deal with this issue. [4]

END OF PAPER

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Surname	StemUp Model Solution
Answer booklet	Write the question number in the left-hand margin at the start of each answer.

Question number

0 1

In Western psychology the mother has traditionally been seen as the natural primary care-giver, the person with whom the infant forms its first and most important attachment. This view comes mainly from the psychodynamic approach. Freud argued that during the oral stage the infant's libido is focused on the mouth, so the mother who feeds the baby becomes its first love object, and he described this relationship as unique and the prototype of all later love relationships. The behaviourist view gives a similar answer for a different reason: through classical conditioning the mother (neutral stimulus) is paired with food (unconditioned stimulus) and so comes to produce pleasure, and through operant conditioning she becomes a secondary reinforcer.

Bowlby built on this in his maternal deprivation hypothesis. He claimed that a warm, intimate and continuous relationship with the mother (or permanent mother-substitute) is as important for mental health as vitamins are for physical health, and that if this bond is broken during a critical period of about the first two and a half years the damage is serious and largely irreversible, for example affectionless psychopathy, delinquency and lower intelligence. In his 44 juvenile thieves study, 14 of the thieves were diagnosed as affectionless psychopaths and 12 of these 14 had experienced prolonged early separation from their mother, compared with only 2 of the 44 controls. In his later theory of monotropy Bowlby argued that infants are innately programmed to form one special attachment, usually to the mother, which acts as a template for later relationships (the internal working model). Modern research on day care seems to support some concern: Belsky's analysis of the large American NICHD study found that children who spent more time in non-maternal care before school were rated as more aggressive and disobedient, and Sigman (2011) argued that

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long hours in nurseries can raise infants' stress hormone cortisol.

However, there are serious problems with this evidence. Freud's ideas came from case studies of disturbed adults recalling their childhoods, so they are retrospective, subjective and unfalsifiable. Bowlby's 44 thieves study was also retrospective, relied on interviews that Bowlby conducted himself (risk of researcher bias) and is only correlational, so separation cannot be shown to cause psychopathy. Rutter (1970s) re-examined maternal deprivation and argued that Bowlby confused deprivation (losing a bond) with privation (never forming one); his studies of boys on the Isle of Wight found that antisocial behaviour was linked more to family discord than to separation from the mother itself. The day care findings are small effects, and the quality of care, not who gives it, seems to matter most.

Other research directly challenges the idea that the mother is special. Harlow (1959) found that infant rhesus monkeys spent most of their time clinging to a soft cloth 'mother' rather than a wire mother that gave milk, showing that contact comfort, not feeding, is the basis of attachment, which contradicts both Freud and the behaviourists. Schaffer and Emerson (1964) followed 60 Glasgow babies and found that by 18 months 87% had multiple attachments, and the main attachment was to the person who showed the most sensitive responsiveness, not the person who fed and changed them; in 39% of cases this was not the main physical care-giver. This suggests anyone sensitive can be the primary care-giver. Biological research on fathers supports this: Frodi et al. (1978) found fathers and mothers showed the same physiological arousal to a crying baby, Feldman (2010) found fathers' oxytocin levels rose to similar levels to mothers' in the first months, Gettler et al. (2011) found men's testosterone fell after becoming fathers, especially in those most involved in childcare, and Abraham et al. (2014) found that gay fathers raising babies as primary care-givers showed amygdala activity similar to mothers'. Rutter's (1998) study of 165 Romanian orphans adopted by UK families showed that children adopted before six months largely caught up, so adoptive parents can

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successfully replace the biological mother.

Social and cultural diversity also weakens the idea that the mother must be the primary care-giver. Bowlby's work was carried out in post-war Britain, when most mothers stayed at home, so it is culturally and historically bound and may not apply to modern society. Today there are many single-parent families, stay-at-home fathers, same-sex couples and grandparents who provide much of the childcare, and research on children raised by gay fathers has found them to be well adjusted. In other cultures care is shared: among the Efe of the Congo infants are cared for by many women, and children raised on Israeli kibbutzim spent much of their time with a metapelet but still formed attachments to their parents.

The debate has important social, economic and ethical implications. Bowlby's ideas were used after the war to encourage women to leave work and stay at home, and they may still cause guilt and stigma for working mothers. Changes such as UK shared parental leave (2015) and Sweden's reserved 'daddy months' recognise that fathers can be equal care-givers and challenge gender stereotypes. Economically, many families need two incomes and childcare is expensive, so government support for nurseries matters; if Belsky is right, the quality of this care becomes a political issue. Ethically, the view that only a mother can provide proper care is socially sensitive, because it disadvantages single fathers and male same-sex couples, for example in adoption decisions.

In conclusion, mothers are often the primary care-giver, but the evidence suggests this is due to social and economic tradition rather than biology. Schaffer and Emerson, Harlow, Rutter and research on fathers all show that the key factor is sensitive, consistent and responsive care, which can be given by a father, an adoptive parent or several care-givers. The mother's role is therefore important but not unique, and modern policy should support whoever is best placed to provide that care.

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0 2 (a)	The dependent variable (DV) is the variable that the researcher measures in an experiment, to see whether it has been affected by the independent variable (IV) that the researcher manipulates. For example, in a memory experiment the number of words correctly recalled would be the DV.
0 2 (b)	The maximum voltage (shock level, from 15 V to 450 V) each participant gave before refusing to continue.
0 3	A matched pairs design is a type of independent groups design in which participants are first tested or assessed on characteristics relevant to the study (such as age, gender or IQ) and put into pairs who are as similar as possible. One member of each pair is then randomly allocated to one condition and the other member to the other condition, so each participant only takes part once. For example, in an experiment on whether noise affects memory, pairs of participants matched on age, gender and a pre-test of memory ability would be formed. One member of each pair would learn a word list in a noisy room and the other in a quiet room, and their recall scores would be compared. This reduces participant variables while avoiding order effects.
0 4	Kohlberg's participants were 75 American boys who were only 10, 13 or 16 at the start, so they were vulnerable because of their age. Under current BPS guidelines, valid consent for participants under 16 must come from parents as well as the boys themselves, and because the study was longitudinal (re-interviewed every three years) consent should have been renewed at each interview. As children may not feel able to refuse an adult interviewer, Kohlberg would need to watch for verbal and non-verbal signs that a boy no longer

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wanted to continue and remind him of his right to withdraw, which was difficult because hesitation might reflect thinking about the dilemma rather than unwillingness.

The moral dilemmas, such as whether Heinz should steal a drug to save his dying wife, could cause stress or anxiety, or embarrassment if a boy felt his answer was 'wrong', so Kohlberg had to ensure risk of harm was minimised and each boy left in the same state as he arrived, using a full debrief.

Confidentiality was also essential: the boys' stage of moral reasoning should not be identifiable to parents or teachers, so names should be removed to protect their status.

0 5 One strength of on-line research is that very large numbers of participants from many backgrounds and countries can be reached cheaply and quickly, for example through an on-line survey, which increases population validity and makes findings more generalisable than a small laboratory sample. It is also cost-effective and data analysis is quicker, because responses are already in electronic form and can be scored automatically. This also reduces researcher bias, as the researcher is not present to give cues or record data subjectively, and participants may answer more honestly about sensitive topics because they feel anonymous, reducing social desirability bias.

However, on-line research is mostly limited to questionnaires, structured interviews and simple tests, so it is hard to study behaviour that needs observation. There is little control over the environment, so extraneous variables such as noise, distractions or someone helping the participant cannot be controlled, lowering internal validity compared with a laboratory. The researcher cannot be sure who is taking part or whether they are honest about their age, so children could take part without parental consent.

There are also ethical issues. Valid consent is harder to confirm, the researcher cannot see the participant's reactions to judge whether they are distressed, and

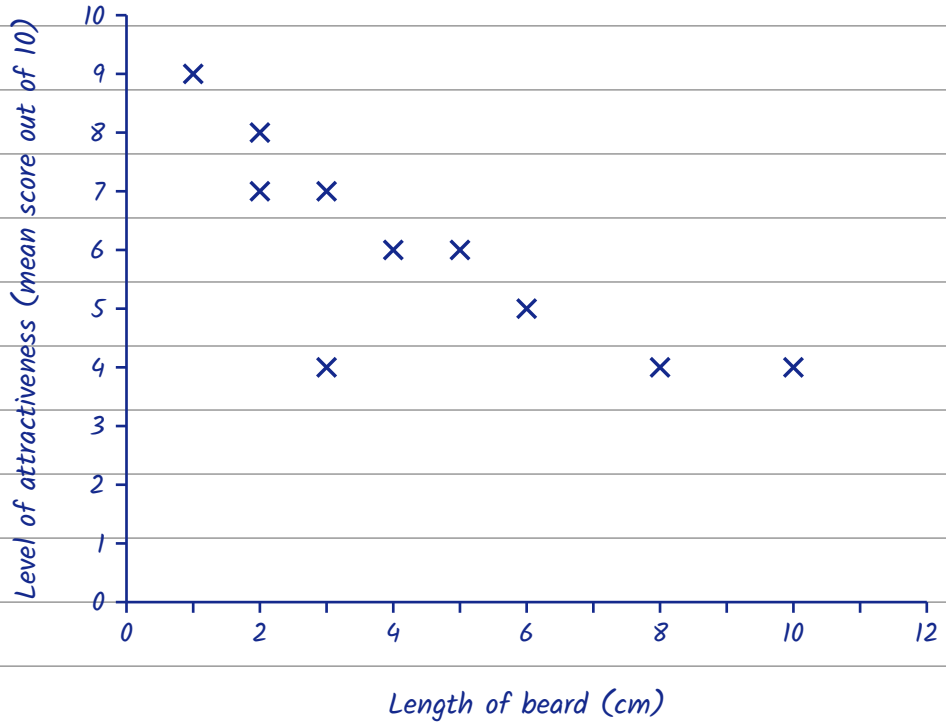
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	a thorough debrief is difficult because participants may simply close the page. Samples are also self-selected internet users, which can bias them towards younger, more educated people. Overall, on-line research is efficient for large surveys but has lower control and weaker ethical protection than laboratory or field research.
0 6 (a)	Internal validity is the extent to which a study measures what it intends to measure, so that changes in the DV are caused by the IV and not by extraneous or confounding variables, because these have been controlled.
0 6 (b)	External reliability is the extent to which a test or study produces consistent results over several occasions, for example if a study is replicated with the same procedure and gives similar results, it has high external reliability, whereas a one-off finding lacks it.
0 7	Milgram used 40 males aged 20 to 50 from New Haven who volunteered after seeing a newspaper advert. Using only men creates a gender bias, so it is difficult to apply his finding that 65% obeyed to the full 450 volts to the obedience of women, who may respond to authority differently. However, Milgram wanted to test the 'Germans are different' hypothesis about the Holocaust, and at the time soldiers and those carrying out orders were mainly male, so a male sample was representative of the people he wanted to explain. His findings can therefore be applied to preventing atrocities such as Auschwitz, for example by training soldiers to question unjust orders. Self-selected participants may also be unrepresentative, because volunteers who answer an advert may be more outgoing, curious or eager to please, and were paid $4.50, so they may be more obedient than the general population. This

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	limits the use of the findings as an explanation of everyday obedience. On the other hand, armies contain both volunteers and conscripts, so the sample may still apply to military obedience, which is where the research has been used, for example in discussing war crimes defences such as 'only following orders'.
0 8 (a)	Participants who are bilingual will achieve a significantly higher score (out of 100) on a multiple choice on-line vocabulary test than participants who are monolingual.
0 8 (b)	Because the test was on-line, participants could have taken it in different places; some may have been in a noisy room with distractions such as television, which would lower their concentration and so lower their vocabulary score, regardless of whether they were bilingual or monolingual.
0 8 (c)(i)	The psychologist could start by contacting a small number of people she knows who fit the study, for example five bilingual and five monolingual people. After each person completes the on-line vocabulary test, she would ask them to pass the test link on to friends or family who speak two languages fluently or one language fluently. These new participants would complete the test and then also be asked to recruit people they know, and the sample would 'snowball' in this way until she had reached the required 60 participants, 30 in each group.
0 8 (c)(ii)	The sample is likely to be biased and unrepresentative of the target population, because it consists of friends of friends who probably share similar backgrounds, education and interests, so results cannot easily be generalised.

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0 8 (d)	An independent groups design, because there are two separate groups of participants, bilingual and monolingual, and each participant takes part in only one condition (they are in one language group only).
0 9 (a)	To see if longer beards make males more attractive to women.
0 9 (b)	Advantage: a correlation shows the strength and direction of a relationship, so the psychologist can see how closely beard length and attractiveness ratings are related, and it could lead to follow-up experiments. Disadvantage: a correlation does not show cause and effect, so it cannot show that a longer beard causes a man to be rated less attractive; another variable such as age, physique or whether the man is smiling could be responsible.
0 9 (c)	Primary sources are data collected first-hand by the researcher directly from participants for the specific aims of the study, rather than using data collected by someone else (secondary data). They can be quantitative or qualitative and can be gathered using a range of methods such as experiments, questionnaires or observations. In this research the primary sources are the beard lengths measured from the 10 men and the attractiveness ratings collected from the 20 women.
0 9 (d)	For each bearded man, the psychologist would add together the attractiveness ratings (1 to 10) given by all 20 women to get a total score for that man. This total would then be divided by 20 (the number of women who rated him) to give the mean attractiveness score for that photograph, repeated for all 10 men.

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0 9 (e)(i) Scatter diagram to show the relationship between length of beard and level of attractiveness



0 9 (e)(ii) The scatter diagram shows a strong negative correlation: as the length of beard increases, the level of attractiveness decreases.

0 9 (f) One issue of validity is that other variables apart from beard length could have affected the women's attractiveness ratings, such as the men's age, hair colour, physique, facial features or whether they were smiling in the photograph. The ratings may therefore reflect general attractiveness rather than the beard, so the study may not measure what it intends to (low internal validity).

To deal with this, the psychologist could increase control by using men of similar attractiveness who are asked to grow beards of different lengths, or the same men photographed at different beard lengths, with standardised photographs (same pose, neutral expression, lighting and clothing), so that beard

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length is the only thing that varies.