GCE AS

B290U20-1

S18-B290U20-1

PSYCHOLOGY – AS component 2
Psychology: Investigating Behaviour

THURSDAY, 17 MAY 2018 – AFTERNOON

1 hour 45 minutes

B290U201
01

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.
Answer **all** questions in **Sections A** and **B**.
Write your answers in the separate answer booklet provided.

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, clear presentation in your answers.
Assessment will take into account the quality of written communication used in your answers.

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Section A

Answer **all** *questions*

1. Explain **one** difference between conducting research in the field and conducting research on-line. [2]

2. Describe how psychologists use ethics committees and ethical guidelines to manage the risk posed by ethical issues. [4+4]

3. Identify what the following symbols represent:

(a) ≤ [1]

(b) > [1]

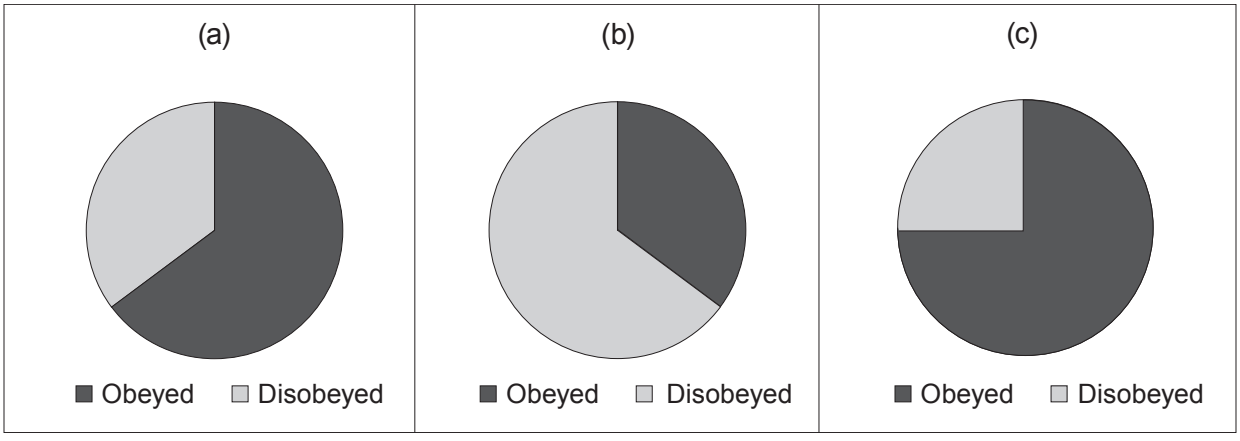
4. Identify which level of measurement is being described:

(a) The measurement scale has equal intervals, however there is no absolute zero. [1]

(b) The measurement scale can be put in order, however the intervals on the scale are not equal. [1]

5. *(a)* Milgram (1963) found that 14 of his 40 participants disobeyed. Which of the following pie charts best represents the amount of participants who obeyed and disobeyed? [1]

Fig.1. Pie Charts



(b) Outline Milgram's (1963) sample and explain how he selected them for his (1963) *'Behavioral Study of Obedience'.* [5]

6. Evaluate the validity of Milgram's (1963) *'Behavioral Study of Obedience'.* [10]

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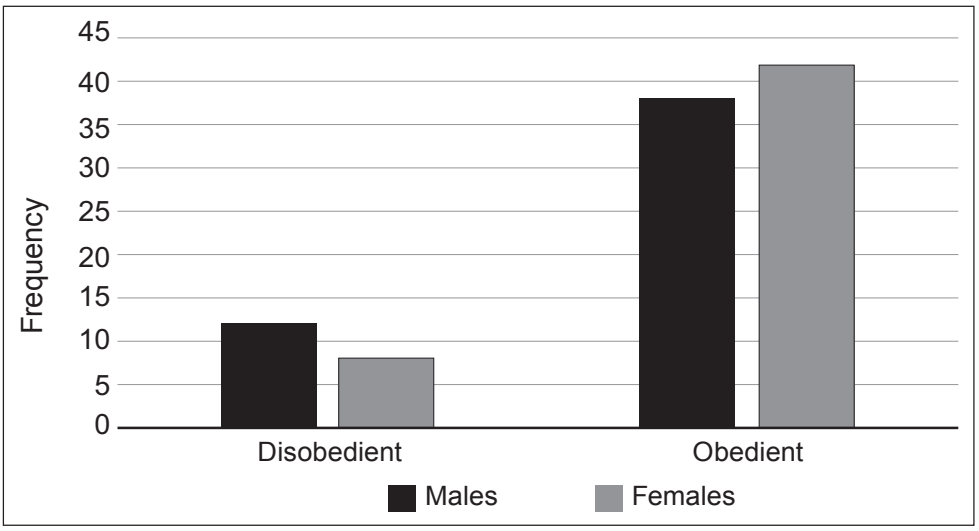
Section B

Answer **all** *questions*

7. A social psychologist wanted to investigate if there was a difference in the disobedience levels of males and females. She conducted her research in the field, in a school canteen. When paying for their food, a member of canteen staff told each student to *"clear away your plates and cutlery when you finish eating"*. The social psychologist and two teachers from the school sat in the canteen pretending they had just finished their lunch whilst undertaking their observations. They observed 100 students (50 females and 50 males), recording the sex of any children that were being disobedient by not clearing away their plates and cutlery after they had finished.

They displayed their results in the following bar chart:

Fig.2. Bar chart showing the frequency of obedience and disobedience in male and female students.



(a) Explain why this research might be considered to be a participant observation rather than a non-participant observation. [3]

(b) As part of the research the social psychologist checked for inter-rater reliability. Explain how the social psychologist might have done this. [3]

(c) One ethical issue relevant to this research is the risk posed when working with vulnerable individuals (including children). Explain **two** other possible ethical issues in this research and suggest how the risk posed by **each** issue could be managed by this social psychologist. [4+4]

(d) Explain why the bar chart (Fig.2.) is an appropriate way to graphically represent the results from this research. [2]

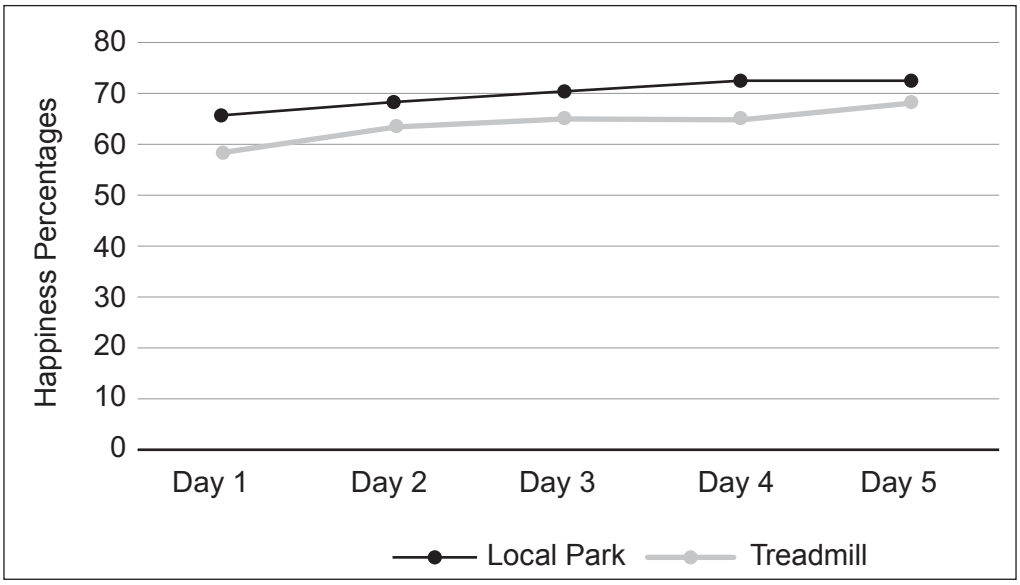
(e) Critically consider possible issues of validity that may arise in this research. [5]

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8. Psychologists have known for a long time that walking has a beneficial impact on our mood. However, a psychologist wanted to investigate if walking on a treadmill is as beneficial as walking in a local park. The psychologist advertised in a local coffee shop for volunteers. She then randomly allocated 15 participants to walk on a treadmill and 15 participants to walk in a local park. All participants agreed to take a one-hour walk each day for 5 days. All participants recorded their mood in terms of a happiness percentage following their walk (0% = no happiness to 100% = most happy they have ever been).

Fig.3. Graph representing the daily mean happiness percentages of those walking on a treadmill and those walking in a local park.



(a) Describe **one** ethical issue that may arise when conducting this research. [2]

(b) Suggest a suitable operationalised directional hypothesis for this research. [2]

(c) Explain **one** strength and **one** weakness of using the sampling technique used in this research. [2+2]

(d) Explain **one** strength *and* **one** weakness of using the experimental design used in this research. [2+2]

(e) (i) Identify the type of graphical representation used in Fig.3. to display the daily mean happiness percentages of those walking on a treadmill and those walking in a local park. [1]

(ii) Explain why the graphical representation you identified in *(e)*(i) was appropriate for this research. [2]

(iii) State what the graphical representation (Fig.3) suggests about the daily average happiness percentages of those walking on a treadmill and those walking in a local park. [2]

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(f) Apart from it being a test of difference, explain **two** other reasons why a Mann-Whitney U test would be an appropriate inferential test for this research. [4]

(g) Apart from sampling and experimental design, critically consider **two** weaknesses with this research and suggest how these weaknesses could be improved. [5+5]

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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

1. On-line research allows the researcher to include participants from around the world, so the sample can be large and culturally diverse, whereas research in the field tends to be limited to one specific natural setting, such as a school or a street, so participants usually come from one geographical region.

2. Ethics committees are usually found in universities, hospitals and other institutions that conduct research. A researcher must submit a proposal describing the aims, procedure, participants and how ethical issues such as consent, deception and the risk of harm will be handled. The committee is made up of a group of people from various disciplines and backgrounds, not just psychology, and often includes a lay member. This allows a wider interpretation of the ethical guidelines and disperses the responsibility for interpreting them away from the individual researcher, who may be biased in favour of their own study. The committee weighs up the costs and benefits and may approve the research, require the researcher to amend the procedure (for example, add a full debrief or a right to withdraw), or refuse permission altogether.

Ethical guidelines are produced by the professional bodies that represent psychologists, such as the British Psychological Society (BPS Code of Ethics and Conduct and Code of Human Research Ethics) and the American Psychological Association (APA). They clearly state what is and is not acceptable practice, based on principles such as respect, competence, responsibility and integrity, covering issues such as valid consent, confidentiality, deception, debriefing and the right to withdraw. Psychologists consult them when designing research so that the risk posed by each ethical issue is identified and managed in advance. Because the guidelines are published, they also let external bodies and

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	participants know what is acceptable practice in psychological research, and psychologists who break them can be disciplined by their professional body.
3.(a)	Less than or equal to.
3.(b)	More than (greater than).
4.(a)	Interval.
4.(b)	Ordinal.
5.(a)	Pie chart (a).
5.(b)	Milgram's sample was 40 males between the ages of 20 and 50, from New Haven and the surrounding communities. They came from a range of occupations, including postal clerks, high school teachers, salesmen, engineers and labourers: 15 were skilled and unskilled workers, 16 were white-collar sales and business workers and 9 were professionals. In terms of age, 8 were in their twenties, 16 in their thirties and 16 in their forties. Their educational level ranged from one who had not finished elementary school to those who had doctorates and other professional degrees. The participants were selected using a volunteer (self-selected) sample. Milgram placed an advertisement in a New Haven newspaper and also used direct mail solicitation, asking for people to take part in a study of memory and learning at Yale University. Those who responded took part voluntarily and were paid $4.50 for coming to the laboratory (plus carfare), which they were told they could keep regardless of what happened once they arrived.
6.	Milgram's study has been criticised for its internal validity. Orne and Holland

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(1968) argued that the participants may not have believed that the shocks were real, because using electric shocks as punishment in a learning task is unrealistic, and the experimenter's unemotional, scripted responses, such as 'the experiment requires that you continue', while the learner screamed would have seemed odd. If participants saw through the deception, the results reflect demand characteristics, with participants simply playing along, rather than genuine obedience. However, Milgram reported that most participants showed extreme tension, sweating, trembling and nervous laughter, and three had full-blown uncontrollable seizures, which suggests they believed the situation was real. In a follow-up questionnaire most participants said they had believed the shocks were real, supporting internal validity.

Another internal issue is confounding variables. The prestige of Yale University may have increased obedience, rather than the authority of the experimenter alone. Milgram's later variation in a run-down office in Bridgeport found obedience fell to 47.5%, showing the setting contributed to the 65% obedience.

In terms of external validity, the sample of 40 male volunteers lacks population validity. Volunteers may be more cooperative than the general population, and as no females were used the findings cannot be generalised to women. However, the sample did include a range of ages, occupations and educational levels, which increases generalisability to American men.

The study also lacks mundane realism, as giving electric shocks to a stranger is not like everyday obedience, such as following a teacher's instruction, so the findings may not apply to ordinary situations. On the other hand, the study is relevant to examples of extreme destructive obedience, such as the Holocaust in Nazi Germany and the genocide in Rwanda, which was Milgram's original aim.

Hofling et al. (1966) found 21 out of 22 nurses obeyed a doctor's telephone instruction to give an overdose, showing obedience in a real setting. Finally, the study was conducted in 1960s America, when deference to authority was greater, so it may suffer from historical bias and lack relevance to modern society, although Burger (2009) replicated it to 150 volts and found similar

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	obedience rates. In conclusion, although there are questions about demand characteristics, the unrepresentative sample and mundane realism, the participants' distress and later replications suggest Milgram's study has reasonable internal validity and tells us something real about obedience to authority.
7.(a)	In a participant observation the researcher is part of the group being observed, whereas in a non-participant observation the researcher is removed from those being observed. In this research the social psychologist and the two teachers were in the same environment as the students, sitting in the school canteen and pretending to have just finished their lunch, so they were part of the setting they were observing. In a non-participant observation you would expect them to observe remotely, for example via a CCTV feed or through a one-way mirror, without being among the students.
7.(b)	The social psychologist and the two teachers would agree in advance an operational definition of disobedience (not clearing away plates and cutlery before leaving the table) and use the same tally chart. All three would independently observe the same students at the same time without conferring and record each student's sex and whether they were obedient or disobedient. Afterwards they would compare their records, for example by correlating their tallies. If there was a strong positive correlation (for example +0.8 or above) between the three observers' records, the observations would have inter-rater reliability.
7.(c)	Issue 1, deception and lack of valid consent: the students were not aware that their behaviour was being observed, because the three observers pretended they had just finished their lunch, and the students had not agreed to take part in research on obedience. To manage this risk, the social psychologist could seek prior general consent, by informing all students (and their parents, as they are

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	children) at the start of term that their behaviour may be observed in public areas around the school, such as the canteen. She could also debrief the students afterwards, for example in a school assembly, and offer them the right to withdraw their data. Issue 2, confidentiality and risk to status: students may not want their disobedient status to be known to a third party, and as two of the observers were teachers at the school, being recorded as a 'disobedient' student who did not clear away their plates could affect a student's status in the eyes of their teachers. To manage this risk, the social psychologist should assure anonymity, by recording only each student's sex and whether they were obedient or not, and not including names, photos or descriptions of any student. The teachers should also be told that the data are confidential and must not be used for discipline.
7.(d)	The data in this research are nominal (category) data, as each student was simply counted in a category of male or female and obedient or disobedient. A bar chart is appropriate because it displays the frequency of each category as separate bars, making it easy to compare the obedience and disobedience frequencies of the 50 male and 50 female students.
7.(e)	There are possible issues of internal validity. It is questionable whether not clearing away plates and cutlery is really disobedience: a student may have simply forgotten, been in a hurry to get to a lesson, or not heard the canteen staff, so the DV may not be measuring disobedience at all. Also, canteen staff may not usually give orders to students, so they may not be seen as an authority figure, unlike a teacher. In addition, students may have noticed the three adults, two of whom were their teachers, and changed their behaviour, so some may have been obedient only because they knew teachers were present. However, because the research took place in the field, a real school canteen, and the students did not know they were being observed, their behaviour was

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	likely to be natural, which increases ecological validity. On the other hand, there are issues of external validity. A school canteen may not generalise to other settings, such as the workplace, and a sample of 100 students from one school may lack population validity, as school students may not represent the obedience of adults in the general population, so the gender difference found may not apply beyond this school.
8.(a)	Risk of physical harm: a participant might hurt themselves while walking for an hour each day, for example by falling off the treadmill or tripping on an uneven path in the local park, especially as the researcher is not there to supervise and the walks are repeated for 5 days.
8.(b)	Participants who walk in a local park for one hour a day for 5 days will report higher happiness percentages (0% to 100%) after their walks than participants who walk on a treadmill for one hour a day for 5 days.
8.(c)	The sampling technique used was a volunteer (self-selected) sample, as participants responded to an advert in a local coffee shop. Strength: the researcher knows that the participants definitely want to take part and are willing to commit to a one-hour walk every day for 5 days, unlike randomly selected people who may refuse, so fewer are likely to drop out of the study. Weakness: volunteers who saw the advert in one local coffee shop are likely to be unrepresentative, for example people who already enjoy walking and are motivated to exercise, so their happiness ratings may not generalise to the wider population.
8.(d)	The design was independent groups, as 15 participants walked on a treadmill and a different 15 walked in a local park. Strength: as each participant only took part in one condition, there are no order

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	effects, such as walkers becoming fitter or bored, and they are less likely to guess the aim and show demand characteristics, such as rating the park walk higher. Weakness: different participants were in each condition, so any difference in happiness may be due to participant variables, such as the park group being naturally happier people, although random allocation reduces this risk.
8.(e)(i)	A line graph.
8.(e)(ii)	A line graph is appropriate because it shows changes in the mean happiness percentages over time, across the 5 days, and allows the trend for the local park group and the treadmill group to be compared on the same axes.
8.(e)(iii)	Over the five days, the mean happiness percentages of those walking in the local park (about 66% to 72%) are always higher than those walking on the treadmill (about 58% to 68%), although the happiness of both groups increases over the 5 days.
8.(f)	Firstly, the data are independent: each participant's happiness percentages come from only one condition, as they either walked on a treadmill or walked in the local park, because an independent groups design was used. The Mann-Whitney U test is used for independent data. Secondly, the data are at least ordinal: the happiness percentages are measured on a scale from 0% (no happiness) to 100% (most happy they have ever been), so they can be ranked, which the Mann-Whitney U test requires. The data are in fact ratio, as 0% means no happiness, but because the ratings are subjective the intervals may not be truly equal, so a non-parametric test is suitable.
8.(g)	Weakness 1, lack of control: the researcher was not present when the

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participants were walking, so there are many possible confounding variables. Those walking in the local park may have walked with friends or with their dog, and this company may be responsible for their greater happiness rather than the fact they were walking outside in a park. The weather may also have affected the park walkers. Participants may also have timed their one-hour walk differently, for example some park walkers may have timed it from when they left home rather than just the walking they did in the park, so the amount of walking was not standardised. This reduces internal validity, as we cannot be sure that the difference in happiness percentages was caused by the type of walk.

Improvement: the researcher could supervise the participants during their walking sessions, to ensure that all participants completed the walk by themselves, and issue standardised instructions to all 30 participants on how to time their walks (not including time spent getting to the park or gym), possibly using a fitness tracker to record that exactly one hour was walked at a similar pace. This would control these extraneous variables, increasing confidence that the location of the walk caused any difference in happiness, and make the study easier to replicate.

Weakness 2, the assessment of happiness is problematic: the participants rated their own happiness as a percentage, which is highly subjective, as one person's 70% may be another person's 50%, and the rating scale (0% no happiness to 100% most happy they have ever been) is very basic. The ratings may also be affected by social desirability, with participants increasing their percentages to avoid seeming miserable, and demand characteristics, as participants who knew that walking is thought to improve mood may have rated themselves as happier than they felt. This reduces the validity and reliability of the DV.

Improvement: the researcher could give more detailed guidance on how to assess happiness, or use a standardised, validated mood questionnaire with several items instead of a single percentage. Participants should be assured that their results are confidential and reminded that honest responses are needed. Alternatively, a

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more objective measure of happiness could be used, such as physiological measures of levels of serotonin, dopamine or endorphins taken after each walk. This would reduce subjectivity and social desirability bias, making the measure of happiness more valid.