Please check the examination details below before entering your candidate information

Candidate surname: StemUp Model Solution

Other names:

Centre Number | Candidate Number

Pearson Edexcel International Advanced Level

Tuesday 6 May 2025

Afternoon (Time: 1 hour 30 minutes)

Paper reference **WPS01/01**

Psychology

International Advanced Subsidiary

UNIT 1: Social and Cognitive Psychology

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*

Information

- The total mark for this paper is 64.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*
- The list of formulae and statistical tables are printed at the start of this paper.
- Candidates may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

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FORMULAE AND STATISTICAL TABLES

Standard deviation (sample estimate)

$$\sqrt{\left(\frac{\sum(x-\bar{x})^2}{n-1}\right)}$$

Spearman's rank correlation coefficient

$$1-\frac{6\sum d^2}{n(n^2-1)}$$

Critical values for Spearman's rank

	Level of significance for a one-tailed test				
	0.05	**0.025**	**0.01**	**0.005**	**0.0025**
	Level of significance for a two-tailed test				
N	**0.10**	**0.05**	**0.025**	**0.01**	**0.005**
5	0.900	1.000	1.000	1.000	1.000
6	0.829	0.886	0.943	1.000	1.000
7	0.714	0.786	0.893	0.929	0.964
8	0.643	0.738	0.833	0.881	0.905
9	0.600	0.700	0.783	0.833	0.867
10	0.564	0.648	0.745	0.794	0.830
11	0.536	0.618	0.709	0.755	0.800
12	0.503	0.587	0.678	0.727	0.769
13	0.484	0.560	0.648	0.703	0.747
14	0.464	0.538	0.626	0.679	0.723
15	0.446	0.521	0.604	0.654	0.700
16	0.429	0.503	0.582	0.635	0.679
17	0.414	0.485	0.566	0.615	0.662
18	0.401	0.472	0.550	0.600	0.643
19	0.391	0.460	0.535	0.584	0.628
20	0.380	0.447	0.520	0.570	0.612
21	0.370	0.435	0.508	0.556	0.599
22	0.361	0.425	0.496	0.544	0.586
23	0.353	0.415	0.486	0.532	0.573
24	0.344	0.406	0.476	0.521	0.562
25	0.337	0.398	0.466	0.511	0.551
26	0.331	0.390	0.457	0.501	0.541
27	0.324	0.382	0.448	0.491	0.531
28	0.317	0.375	0.440	0.483	0.522
29	0.312	0.368	0.433	0.475	0.513
30	0.306	0.362	0.425	0.467	0.504

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

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Chi-squared distribution formula

$$X^2 = \sum \frac{(O-E)^2}{E} \qquad df = (r-1)(c-1)$$

Critical values for chi-squared distribution

	Level of significance for a one-tailed test					
	0.10	**0.05**	**0.025**	**0.01**	**0.005**	**0.0005**
	Level of significance for a two-tailed test					
df	**0.20**	**0.10**	**0.05**	**0.025**	**0.01**	**0.001**
1	1.64	2.71	3.84	5.02	6.64	10.83
2	3.22	4.61	5.99	7.38	9.21	13.82
3	4.64	6.25	7.82	9.35	11.35	16.27
4	5.99	7.78	9.49	11.14	13.28	18.47
5	7.29	9.24	11.07	12.83	15.09	20.52
6	8.56	10.65	12.59	14.45	16.81	22.46
7	9.80	12.02	14.07	16.01	18.48	24.32
8	11.03	13.36	15.51	17.54	20.09	26.12
9	12.24	14.68	16.92	19.02	21.67	27.88
10	13.44	15.99	18.31	20.48	23.21	29.59
11	14.63	17.28	19.68	21.92	24.73	31.26
12	15.81	18.55	21.03	23.34	26.22	32.91
13	16.99	19.81	22.36	24.74	27.69	34.53
14	18.15	21.06	23.69	26.12	29.14	36.12
15	19.31	22.31	25.00	27.49	30.58	37.70
16	20.47	23.54	26.30	28.85	32.00	39.25
17	21.62	24.77	27.59	30.19	33.41	40.79
18	22.76	25.99	28.87	31.53	34.81	42.31
19	23.90	27.20	30.14	32.85	36.19	43.82
20	25.04	28.41	31.41	34.17	37.57	45.32
21	26.17	29.62	32.67	35.48	38.93	46.80
22	27.30	30.81	33.92	36.78	40.29	48.27
23	28.43	32.01	35.17	38.08	41.64	49.73
24	29.55	33.20	36.42	39.36	42.98	51.18
25	30.68	34.38	37.65	40.65	44.31	52.62
26	31.80	35.56	38.89	41.92	45.64	54.05
27	32.91	36.74	40.11	43.20	46.96	55.48
28	34.03	37.92	41.34	44.46	48.28	56.89
29	35.14	39.09	42.56	45.72	49.59	58.30
30	36.25	40.26	43.77	46.98	50.89	59.70
40	47.27	51.81	55.76	59.34	63.69	73.40
50	58.16	63.17	67.51	71.42	76.15	86.66
60	68.97	74.40	79.08	83.30	88.38	99.61
70	79.72	85.53	90.53	95.02	100.43	112.32

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

Wilcoxon Signed Ranks test process

- Calculate the difference between two scores by taking one from the other
- Rank the differences giving the smallest difference Rank 1

  Note: do not rank any differences of 0 and when adding the number of scores, do not count those with a difference of 0, and ignore the signs when calculating the difference
- Add up the ranks for positive differences
- Add up the ranks for negative differences
- T is the figure that is the smallest when the ranks are totalled (may be positive or negative)
- N is the number of scores left, ignore those with 0 difference

Critical values for the Wilcoxon Signed Ranks test

	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
n	0.1	0.05	0.02
N=5	0	–	–
6	2	0	–
7	3	2	0
8	5	3	1
9	8	5	3
10	11	8	5
11	13	10	7
12	17	13	9

The calculated value must be equal to or less than the critical value in this table for significance to be shown.

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QUESTION 1 BEGINS ON THE NEXT PAGE.

SECTION A

Social Psychology

Answer ALL questions. Write your answers in the spaces provided.

1 In social psychology, you will have learned about Milgram's (1963) variation studies.

(a) Describe how Milgram gathered his sample in the rundown office block variation study (Experiment 10).

(2)

Milgram recruited 40 men with a range of occupations using a mail circular similar to the one used in the baseline study. However, the letterhead was changed so the study appeared to be run by a private firm called "Research Associates of Bridgeport", with no link to Yale University.

(b) Explain **one** strength of Milgram's rundown office block variation study (Experiment 10).

(2)

Moving the study to a rundown office block in Bridgeport fully separated it from the prestige of Yale. This increased internal validity, as location was the only thing changed, so Milgram could see whether the setting affected obedience (48% still went to 450 volts compared with 65% at Yale).

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(c) Explain **one** improvement that could be made to Milgram's rundown office block variation study (Experiment 10).

(2)

Milgram could have recruited women as well as men for the rundown office block study, so the sample was more representative of the population. This would mean his findings about location and obedience could also be generalised to women, not just to American men.

(Total for Question 1 = 6 marks)

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2 In your studies of obedience, you will have learned about factors that affect obedience.

(a) Explain **one** reason why personality may affect obedience.

(2)

People with an external locus of control are more likely to obey than those with an internal locus of control, because they believe their behaviour is controlled by others and so take less responsibility for their actions. This is supported by Miller (1975), who found that "externals" obeyed a high status experimenter more than a low status one, whereas "internals" showed no difference.

(b) Explain **two** reasons why personality may not affect obedience.

(4)

1 *Many studies find little difference in obedience between people with an external and an internal locus of control. For example, Schutz (1985) found no difference in obedience when participants were told to give painful shocks, which suggests personality is not an important influence on obedience.*

2 *Situational factors seem to have a much larger effect than personality. In Milgram's variations the same type of participants were used, yet obedience fell from 65% to 20.5% when the experimenter gave orders by telephone, so changes in the situation, not personality, explained the change in obedience.*

(Total for Question 2 = 6 marks)

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3 Christophe carried out a study about obedience on 45 students in his school. To collect his data, he used a questionnaire with closed questions. Christophe's results are shown in **Table 1**.

Questions asked	Number of students who answered 'yes'
Do you give in homework before the deadline?	7
Do you give in homework on the deadline?	28
Do you need to be asked for your homework after the deadline has passed?	10

Table 1

(a) Calculate the ratio of students who need to be asked for their homework after the deadline has passed to the total number of students.

You **must** express the ratio in its lowest form.

(1)

Space for calculations

Asked after deadline = 10, total = 45

10 : 45 (divide both by 5) = 2 : 9

Ratio 2 : 9

(b) Calculate the percentage of students who gave their homework in before or on the deadline out of the total number of students.

You **must** give your answer to **one** decimal place.

(1)

Space for calculations

Before or on the deadline = 7 + 28 = 35

(35 ÷ 45) × 100 = 77.777... = 77.8%

Percentage 77.8%

(Total for Question 3 = 2 marks)

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4 Rachel is a student who is very concerned about the effects of car pollution on the environment. Where possible, she walks or rides a bicycle instead of using cars. Rachel and her friend, Lottie, have started an environmental group and are trying to promote an environmentally-friendly way of life. At college, Rachel has organised several events and recently has arranged a talk by a popular speaker.

Describe, using minority influence (Moscovici, 1976), why Rachel and Lottie's actions are influencing behaviour.

Minority influence is when a small group changes the private beliefs and behaviour of the majority, leading to conversion (internalisation) rather than just public compliance. Moscovici (1976) said the minority must be consistent, committed and flexible. Rachel and Lottie are consistent because they always promote the same environmentally-friendly message and Rachel walks or cycles wherever possible, so other students see that she genuinely lives by her beliefs. They show commitment by starting an environmental group and organising several events, which makes others think about the issue more deeply. By arranging a talk by a popular speaker they appear knowledgeable and credible, so more students may start to agree and be converted.

(Total for Question 4 = 4 marks)

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5 Jorge has recently bought a car. He has noticed an unusual noise if he drives fast. His friends hear the noise but tell him that it is nothing to worry about and he should still drive fast.

Jorge is very concerned, so he speaks to the car specialist at his local garage. He has known the car specialist for a long time and trusts their advice. The car specialist tells him to bring the car into the garage the next day and only drive at a slow speed.

Discuss, using social power theory, why Jorge obeys the car specialist and not his friends.

You **must** make reference to the context in your answer.

(8)

Social power theory (French and Raven, 1959) states that a social agent can influence a person through five bases of power: legitimate, reward, coercive, referent and expert power. The power is based on how the individual perceives the agent, and the more bases of power a person is seen to have, the more likely they are to be obeyed.

Expert power is when a person is obeyed because they are seen as having superior knowledge or skill in an area. Jorge obeys the car specialist because he believes the specialist understands cars and can tell whether the unusual noise is dangerous. His friends have no special knowledge of cars, so when they say the noise is nothing to worry about, their advice carries less weight. As Jorge is very concerned, he wants the opinion of the person most likely to be right, so he drives slowly to protect his car.

Referent power is when a person is obeyed because the individual likes, respects and wants to identify with them. Jorge has known the car specialist for a long time and trusts their advice, so he values their opinion and wants to be seen to follow it. However, his friends could also have referent power, as Jorge is likely to identify with them and want their approval. This suggests referent power alone cannot explain why he obeys the specialist, so it must be combined with expertise.

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Legitimate power comes from an acknowledged role or position. The car specialist works at the local garage, so Jorge sees them as having the right to tell him how his car should be driven and when to bring it in. His friends have no such role, so their instruction to keep driving fast has no legitimacy. Coercive power may also play a part, as Jorge may fear the cost of a serious repair or an accident if he ignores the specialist, whereas his friends cannot offer any reward or punishment.

Overall, Jorge obeys the car specialist because the specialist holds several bases of power at once, expert, legitimate and referent, while his friends only have possible referent power. However, the theory assumes Jorge consciously weighs up these powers, when his anxiety about the noise may simply make him want the safest advice.

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(Total for Question 5 = 8 marks)

TOTAL FOR SECTION A = 26 MARKS

SECTION B

Cognitive Psychology

Answer ALL questions. Write your answers in the spaces provided.

6 In your studies of cognitive psychology, you will have learned about the working memory model of memory (Baddeley and Hitch, 1974).

Explain **two** weaknesses of the working memory model (1974).

1 *The central executive is the most important component, yet its precise functioning is unclear and it is hard to measure or test. This vagueness reduces the credibility of the working memory model, as its key component cannot be properly explained.*

2 *Lieberman (1980) found that blind people have good spatial awareness without any visual processing. This suggests the visuo-spatial sketchpad is not accurate as one store and should have separate visual and spatial components.*

(Total for Question 6 = 4 marks)

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QUESTION 7 BEGINS ON THE NEXT PAGE.

7 Wout wanted to carry out a memory experiment to see if people recalled more trigrams in the morning, Condition A, than in the afternoon, Condition B. He recorded the number of trigrams participants could remember in both conditions.

(a) Identify the fully operationalised independent variable (IV) and dependent variable (DV) in Wout's experiment.

(2)

Independent variable (IV)

Whether participants were tested on recall of the trigrams in the morning (Condition A) or in the afternoon (Condition B).

Dependent variable (DV)

The number of trigrams each participant correctly recalled in each condition.

(b) Describe the level of measurement Wout recorded in his experiment.

(2)

Wout recorded interval data, because the number of trigrams recalled is measured in equal units, so the difference between recalling 3 and 4 trigrams is the same as between 7 and 8. This is because each of Wout's trigrams is of equal length and difficulty.

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(c) Wout carried out a statistical test on his results and found that they were significant at $p \leqslant 0.10$. He accepted his experimental hypothesis.

Describe why Wout may have made a Type I error.

(2)

A Type I error is when Wout rejects his null hypothesis, that time of day does not affect the number of trigrams recalled, when it is actually true. Most research uses $p \leq 0.05$, so because Wout used a lenient level of $p \leq 0.10$ there is a 10% chance his significant difference between morning and afternoon recall was due to chance, so he may have wrongly accepted his experimental hypothesis.

(Total for Question 7 = 6 marks)

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8 In your studies of cognitive psychology, you will have carried out a practical investigation.

(a) Describe how you gathered your sample for your cognitive psychology practical investigation.

(2)

We used an opportunity sample of people who were readily available for our acoustic similarity memory experiment. We asked 25 students aged 16 to 18 who were working in the school library if they would take part in recalling two lists of words.

(b) Describe **one** extraneous variable that you controlled in your cognitive psychology practical investigation.

(2)

We controlled noise level, as noise could distract participants while they recalled the lists of acoustically similar and dissimilar words. We tested everyone in the same quiet room with a teacher in the corridor to keep noise down, so recall was not affected by distraction.

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(c) Explain **one** strength of your cognitive psychology practical investigation in terms of reliability.

(2)

We used a standardised procedure where every participant saw each of the 10 words for 3 seconds and then had 30 seconds to recall the list. As each participant had the same experience, the procedure could be replicated, so our acoustic similarity experiment was reliable.

(d) Explain **one** strength of your cognitive psychology practical investigation in terms of generalisability.

(2)

We recruited 25 male and female students aged 16 to 18, who were representative of our target population of sixth form students. This means we could generalise our findings about acoustic similarity to male and female students of that age.

(Total for Question 8 = 8 marks)

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9 Cognitive psychology often uses case studies of brain damaged patients to research memory.

Evaluate the ethical considerations of using case studies of brain damaged patients in memory research.

(8)

BPS guidelines state that participants should give informed consent, be protected from physical and psychological harm, have their privacy and confidentiality protected, and be given the right to withdraw. Case studies of brain damaged patients, such as HM, who lost his ability to form new long-term memories after surgery removed parts of his hippocampus in 1953, raise difficulties with each of these.

Informed consent is a major problem. HM had severe anterograde amnesia, so he could not remember agreeing to take part and was a vulnerable person who was not in a position to give fully informed consent to the many tests carried out on him. Consent was obtained from others on his behalf, but this means he may have taken part in research he would not have chosen himself. Similarly, he could not meaningfully use his right to withdraw, as each session felt new to him.

On the other hand, researchers did try to protect HM from harm. Because he could not create new long-term memories, information such as the death of his mother was handled sensitively, so he did not have to relive the distress of hearing it again and again. HM was also a unique case who could easily be identified, but researchers kept his confidentiality and anonymity by only using his initials, and his full name was only released after his death, which was ethical during his lifetime.

Finally, the personal rights of the patient must be balanced against the benefits of the research. HM gave invaluable knowledge about the difference between short-term and

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long-term memory and the role of the hippocampus, which has helped many others. However, he was studied extensively for decades, so his rights may not have been fully balanced against these benefits.

In conclusion, case studies of brain damaged patients can be carried out ethically if harm is minimised and identity is protected, as with HM. However, informed consent and the right to withdraw can never be fully achieved with patients whose memory is impaired, so such research is only justified because the benefits are so great and cannot be gained in any other way.

(Total for Question 9 = 8 marks)

TOTAL FOR SECTION B = 26 MARKS

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SECTION C

Answer the question. Write your answer in the space provided.

10 To what extent do situation and culture affect conformity?

(12)

Conformity is a change in behaviour or belief to fit in with a group, because of real or imagined group pressure. Asch (1951) showed the power of the situation: in his line judgement task, participants conformed to a wrong majority answer on about 32% of the critical trials, and around three quarters of participants conformed at least once. This suggests that most people show compliance with a majority, even when the answer is obvious.

Asch's later variations show that situational factors strongly affect conformity. Conformity increased when the task was made more ambiguous or difficult, as people looked to the group for information. It also rose as the majority grew to three, and fell sharply when one confederate gave the correct answer or when participants wrote their answers privately. Schultz et al. (2008) also showed situational effects in real life: hotel guests given a normative message that most other guests reused their towels reduced their towel use, so a situational message increased compliance. However, Asch's line judging task is artificial and may not represent conformity in difficult real-life situations, and he only used male American students, so his findings lack population validity and cannot be assumed to apply to women.

Culture also affects conformity. Collectivist cultures have norms that prioritise the group, so people are more likely to conform, whereas people in individualistic cultures focus on personal goals and are less likely to conform. Bond and Smith (1996) supported this in a meta-analysis of 133 studies using Asch's line task, which found conformity was greater in collectivist cultures. Kim and Markus (1999) also found that adverts in US magazines focused on uniqueness, while Korean adverts focused more on conformity and tradition. However, research suggests that collectivist cultures conform mainly to their in-group, so they may

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conform less to strangers, which means culture interacts with the situation rather than acting alone.

Other factors may also explain conformity. Visser and Krosnick (1998) found that younger and older people may be more likely to conform than those in middle age, suggesting age is an alternative explanation. Personality factors and the historical period may also matter, as Bond and Smith found conformity in the US had declined since the 1950s, so conformity is not fixed by situation or culture.

To conclude, situation and culture both have a large effect on conformity. The situation appears to have the most immediate effect, as small changes such as one dissenter can greatly reduce it, while culture sets a general tendency to conform more or less. However, as most evidence comes from artificial tasks, and individual factors such as age also play a part, situation and culture explain conformity to a great but not complete extent.

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(Total for Question 10 = 12 marks)

TOTAL FOR SECTION C = 12 MARKS
TOTAL FOR PAPER = 64 MARKS

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