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Cambridge International AS & A Level

CANDIDATE NAME: *StemUp Model Solution*

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5114507878

PSYCHOLOGY **9990/11**

Paper 1 Approaches, Issues and Debates **October/November 2020**

1 hour 30 minutes

You must answer on the question paper.

No additional materials are needed.

INSTRUCTIONS

- Answer **all** questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
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INFORMATION

- The total mark for this paper is 60.
- The number of marks for each question or part question is shown in brackets [ ].

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Answer **all** questions.

1 From the study by Baron-Cohen et al. testing theory of mind in participants with Asperger's syndrome and autism:

(a) Name the test that was being revised in this study.

The (Reading the Mind in the) Eyes Test. [1]

(b) Identify **two** problems with the original test.

1 *It was a forced choice between only two words, so participants could guess the right answer 50% of the time.*

2 *There were too few items (only 25), so there was a narrow range of scores and a ceiling effect.* [2]

(c) Outline **one** conclusion from this study.

People with Asperger syndrome or high-functioning autism (AS/HFA) have a deficit in theory of mind, so they find it difficult to work out what other people are thinking and feeling from their eyes, which makes it harder for them to empathise in social situations. [2]

2 From the study by Piliavin et al. (subway Samaritans):

(a) Describe what the observers recorded about participants in the adjacent area.

The second observer, sitting in the adjacent area, coded the race, sex and location of every passenger in the adjacent area. They recorded the latency (time taken) for the first helper to arrive after the victim fell when no model was present, and the time taken for any further help to arrive after the model had helped. They also noted any spontaneous comments made by nearby passengers and tried to elicit comments from a passenger sitting next to them. [3]

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(b) Describe **one** result about the sex of 'spontaneous first helpers'. You **must** use data in your answer.

More men than women were spontaneous first helpers. Of the 81 spontaneous first helpers, 90% were male and only 10% were female, even though there were a large number of women in the critical area. This suggests men felt more able, or more expected, to help a man who had collapsed.

[3]

3 Explain one or more real-world applications of the study by Dement and Kleitman (sleep and dreams). Do **not** refer to more than three applications in your answer.

Sleep clinics could use the method of Dement and Kleitman to diagnose sleep disorders. A patient with a problem such as insomnia or nightmares could sleep overnight in a lab with EEG electrodes on the scalp and near the eyes. The EEG would show how long they spend in each stage of sleep and in REM sleep, and they could be woken in REM to report dreams. Doctors could then see whether the patient gets enough REM sleep and design treatment, such as sleep hygiene advice or a better sleep schedule.

Also, people who have frequent nightmares could be woken during REM sleep, since this is when vivid dreams happen, and taught to change the dream content, reducing anxiety.

[5]

4 From the study by Saavedra and Silverman (button phobia):

(a) (i) Name **one** stimulus given a Distress Rating of 2 or 3 on the Disgust/Fear Hierarchy.

Large denim jean buttons. [1]

(ii) Name **one** stimulus given a Distress Rating of 7 or 8 on the Disgust/Fear Hierarchy.

Small clear plastic buttons. [1]

(b) Describe the participant used in this study.

The participant was a 9-year-old Hispanic American boy who was brought by his mother to a Child Anxiety and Phobia Program. He met the DSM-IV criteria for a specific phobia of buttons but did not meet the criteria for OCD. His phobia began when he was in kindergarten at age 5, when a bowl of buttons fell onto him at school.

[3]

(c) Explain why this study is from the learning approach.

The learning approach assumes behaviour is learned from experience. The boy's phobia was learned after the bowl of buttons fell on him, and in therapy he was rewarded (positive reinforcement, operant conditioning) for handling buttons on the hierarchy.

[2]

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5 From the study by Yamamoto et al. (chimpanzee helping):

Describe the procedure of the First “Can See” condition **and** the “Cannot See” condition.

In both conditions, two chimpanzees (a mother and her offspring) were in adjacent booths. The recipient was given a tool-use task needing a stick or a straw to get a juice reward, and the helper was given a tray of seven objects (e.g. stick, straw, hose, chain, rope, brush, belt). In the First "Can See" condition the booths were separated by a transparent panel with a hole, so the helper could see the recipient's situation and pass a tool through the hole. In the "Cannot See" condition the panel was opaque, except for a small window, so the helper could only see the recipient's task if it stood up and purposely looked through the window. [4]

6 Describe the psychology that is being investigated in the study by Canli et al. (brain scans and emotions).

Canli et al. investigated how emotion affects memory and the role of the amygdala. The amygdala is a small almond-shaped structure in the temporal lobe and is part of the limbic system, which is involved in processing emotions. The study suggests emotional experiences are remembered better because the amygdala is activated when they are encoded, and the left and right amygdala may have different functions. Brain activity was measured with fMRI, a non-invasive scan using a strong magnetic field and radio waves that detects changes in blood flow (oxygen use) in active brain areas. For example, 10 women viewed 96 scenes and rated how emotionally intense they were while being scanned; three weeks later, highly emotional scenes were remembered better, and this was linked to activity in the left amygdala. [5]

7 From the study by Laney et al. (false memory):

(a) Outline **one** aim of this study.

To investigate whether a positive false memory (that participants had loved asparagus the first time they ate it) could be implanted using false feedback, and whether this would change their attitudes and intentions towards eating asparagus.

..... [2]

(b) Outline **one** methodological weakness of this study.

The sample was only undergraduate students at a university in the USA, all of similar age and education, so the findings may not generalise to older adults or children, who may form positive false memories differently.

..... [2]

(c) Suggest **one** real-world application based on the procedure of this study.

Parents could help children eat healthier food. They could repeatedly tell a child that they loved eating broccoli the first time they tried it, implanting a positive false memory, so the child is more willing to eat broccoli.

..... [2]

8 From the study by Bandura et al. (aggression):

(a) Describe how the children were rated on aggressive behaviour in their nursery school, prior to the study.

Before the study, the children were rated on how aggressive they were at their nursery school by the experimenter and a nursery teacher who knew the children well. They rated each child independently on four five-point scales: physical aggression, verbal aggression, aggression towards inanimate objects and aggressive inhibition. Inter-rater reliability was high (r = 0.89). The scores on the four scales were added together to give a composite aggression score for each child, which was used to match children into groups of three.

..... [4]

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(b) Explain whether each guideline below was broken in the study by Bandura et al.:

confidentiality: *not broken. This guideline means participants' data must not be identifiable as theirs. The children were not named; we only know they came from the Stanford University nursery school, their sex and their age range (37 to 69 months).*

protection from physical harm: *broken. Participants should leave in the same physical state as they entered. The children could have hurt themselves when hitting the Bobo doll with the mallet or using other toys aggressively, e.g. dart guns, so physical harm was possible.*

protection from psychological harm: *broken. Participants should not leave a study distressed or changed. Children were deliberately frustrated by being told the attractive toys were for other children, and may have learned that aggression is acceptable, which was not reversed.*

right to withdraw: *broken. Participants should be able to leave at any time. The children were too young to know they could leave, and in the experimental room the experimenter stayed with each child for 20 minutes, so they could not easily withdraw.* [8]

9 Evaluate the study by Milgram (obedience) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about qualitative data.

One strength of Milgram's study is that it collected qualitative data. As well as recording the maximum voltage each participant gave, Milgram recorded observations of their behaviour, such as sweating, trembling, stuttering, biting their lips and groaning, and 14 of the 40 participants showed nervous laughter. Comments made by participants were also recorded, and interviews took place after the study. This gives depth, explaining why participants obeyed: they were in great conflict and stress, but still obeyed, which the 65% figure alone could not show.

A second strength is that the procedure was highly standardised, which makes it reliable. Every participant heard the same recorded protests from the learner, such as pounding on the wall at 300 volts, and the experimenter used the same four prods in the same order, e.g. "Please continue". So the study could be replicated to check the findings, and differences in obedience were not due to differences in the procedure.

However, one weakness is that the study broke ethical guidelines. Participants were deceived, believing that the shocks were real and that the learner was a real participant, and they were put under extreme psychological stress: three had full-blown, uncontrollable seizures. Also, the prods made it very difficult to use their right to withdraw. Although they were debriefed and reunited with the learner, some may have left the study upset about what they had done.

A second weakness is that the study lacks ecological validity. Giving electric shocks to a stranger who gets words wrong is an artificial task, and the setting at Yale University may have made participants trust the experimenter more than they would trust an authority figure in everyday life. Also, the sample was 40 American men, so the findings may not generalise to women or other cultures.

Overall, Milgram's study gives reliable, rich evidence about obedience, but its ethical problems and artificial task limit what it tells us about obedience in real life.

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6675523031

PSYCHOLOGY **9990/12**

Paper 1 Approaches, Issues and Debates **October/November 2020**

1 hour 30 minutes

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No additional materials are needed.

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Answer **all** questions.

1 From the study by Yamamoto et al. (chimpanzee helping):

(a) Name **one** of the objects on the tray for the chimpanzees, other than the stick or the straw.

A hose. [1]

(b) Outline the difference between an 'upon-request' offer and a 'voluntary' offer in this study.

An upon-request offer is when the helper gives a tool to the recipient after the recipient has requested it (e.g. by reaching through the hole). A voluntary offer is when the helper gives a tool without any request from the recipient. [2]

(c) Outline **one** conclusion from this study.

Chimpanzees can target their help, giving the right tool when they can see and so understand the needs of another chimpanzee, but they rarely help voluntarily and usually only after a direct request. [2]

2 In the euphoria condition in the study by Schachter and Singer (two factors in emotion), a stooge performed a series of standardised behaviours. An observer categorised any behaviours shown by the participant. One category was 'initiates new activity'.

(a) **(i)** Outline how the category of 'initiates new activity' was operationalised in this study.

It was creative euphoria; the participant started a euphoric activity that was outside the stooge's routine, i.e. a behaviour that the participant had never seen the stooge do. [2]

(ii) Name **one** behaviour shown by a participant in this study that was categorised as 'initiates new activity'.

Throwing open the window. [1]

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(b) Describe the results from the Activity Index in the euphoria condition for the Epinephrine Informed (Epi Inf) group compared to the Epinephrine Misinformed (Epi Mis) groups. You **must** use data in your answer.

The Epi Mis group were much more active in the euphoria condition than the Epi Inf group. The Epi Mis group had a mean activity index of 22.56, while the Epi Inf group scored only 12.72. So participants who had no correct explanation for their arousal joined in with the stooge's euphoric behaviour more.

[3]

3 Explain one or more real-world applications of the study by Laney et al. (false memory). Do **not** refer to more than three applications in your answer.

Laney et al. could be used to help people eat a healthier diet. A dietician could give a client false feedback, as in the study, saying that a profile of their food history shows they loved a healthy food such as asparagus or broccoli as a child. Repeating this and asking them to imagine the event could implant a positive false memory, so the person would want to eat more of the healthy food, helping them lose weight.

The same technique could help cancer patients who have lost their appetite during treatment, by implanting positive memories of enjoying nutritious foods, so they are more likely to eat them and keep up their strength.

[5]

4 From the study by Milgram (obedience):

(a) Identify **two** characteristics of the learner in this study.

1 *He was 47 years old.*

2 *He was an accountant (Irish-American).* [2]

(b) Describe the sample of participants used in this study.

There were 40 males aged 20 to 50 years from the New Haven area. They were a volunteer sample, recruited through a newspaper advertisement and direct mail, and paid $4.50. They had a wide range of occupations, e.g. postal clerks, teachers, salesmen, engineers and labourers, and a range of educational levels. [3]

(c) Explain why this study is from the social approach.

The social approach assumes our behaviour is influenced by other people. Milgram studied how an authority figure affected obedience: the experimenter used prods such as "You have no other choice, you must go on" and most participants kept giving shocks. [2]

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5 Describe the procedure of the study by Andrade (doodling) from the point when the tape had finished playing.

After the tape finished, the experimenter collected the response sheets. The experimenter then chatted with the participant for about a minute, and apologised for misleading them, saying that there would be a surprise memory test. Participants were asked to recall the names of the people coming to the party and the places that had been mentioned; half recalled the names first and half recalled the places first. Finally, they were debriefed and asked whether they had suspected that there would be a memory test.

[4]

6 Describe the psychology that is being investigated in the study by Bandura et al. (aggression).

Bandura et al. investigated social learning theory, which suggests behaviour is learned by observing and imitating role models. A person pays attention to a model, retains the behaviour in memory, must be able to reproduce it, and must be motivated to imitate it. Models who are similar, such as the same sex, are more likely to be imitated. The study looked at aggression, which can be physical (e.g. hitting) or verbal (e.g. shouting). It also looked at delayed imitation, where behaviour is observed at one time but reproduced later in a different setting. For example, children who watched an adult model hit the Bobo doll with a mallet and say "Pow" later copied this in another room when the model was not present.

[5]

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7 From the study by Pepperberg (parrot learning):

(a) Outline **one** aim of this study.

To investigate whether a parrot (Alex) could learn the abstract concepts of "same" and "different", and answer questions about what was the same or different about two objects, e.g. colour, shape or material.

..... [2]

(b) Outline **one** methodological weakness of this study.

It was a case study of one parrot, so the findings are hard to generalise. Alex had had years of intensive training, so he may be very different from other parrots, especially wild African grey parrots.

..... [2]

(c) Suggest **one** real-world application based on the procedure of this study.

Teachers could use the model/rival technique in class. A teacher could ask a classroom assistant questions and praise correct answers, so children who struggle learn new words by watching and then competing for attention.

..... [2]

8 **(a)** Outline what is meant by individual and situational explanations of behaviour, using any examples. Do **not** refer to the study by Piliavin et al. (subway Samaritans) in your answer.

The individual explanation says that behaviour is caused by characteristics of the person, such as their personality, beliefs or biology. For example, a person who is an extravert may choose to go snowboarding because they enjoy excitement.
The situational explanation says that behaviour is caused by the environment the person is in, including other people around them. For example, in Milgram's study, participants obeyed because they were in a prestigious university and an experimenter in a lab coat gave orders.

..... [4]

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(b) Explain how **one** result from the study by Piliavin et al. supports the individual explanation of helping behaviour and how **one** result supports the situational explanation of helping behaviour.

Result that supports the individual explanation of helping behaviour: *Of the 81 first helpers who helped spontaneously, 90% were male. Some passengers also made comments such as "It's for men to help him" or "I wish I could help him, but I am not strong enough".*

Explain how: *all passengers saw the same emergency, but whether they helped depended on their own characteristics, i.e. their sex, and their personal beliefs about who should help. Each person had a different view of the incident, so helping was an individual decision.*

Result that supports the situational explanation of helping behaviour: *When there were more males in the critical area, help arrived faster. Also, help was given on 100% of trials with no model for a white drunk victim, but only on 73% for a black drunk victim.*

Explain how: *the situation, i.e. the number of potential helpers present and the race of the victim, changed how quickly people helped and how much they helped, so helping depends on the situation people are in, not just on who they are.*

[8]

9 Evaluate the study by Dement and Kleitman (sleep and dreams) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about generalisations.

One strength of Dement and Kleitman's study is that it collected objective quantitative data. An EEG recorded brain wave activity and electrodes near the eyes recorded eye movements, so the researchers could identify REM and NREM sleep objectively, rather than relying on observation. They could also count the dreams recalled, e.g. 152 dreams from 191 REM awakenings compared with only 11 from 160 NREM awakenings. This makes it easy to compare REM and NREM sleep.

A second strength is that it was a well-controlled laboratory study, so it is reliable. Participants were told to avoid caffeine and alcohol on the day of the study, which could affect sleep, and they were all woken in the same way by a loud doorbell and spoke into a recording device next to the bed. Because the procedure was standardised, the study could be replicated to check that the findings about REM sleep and dreaming are consistent.

However, one weakness is that the findings are hard to generalise. Only 9 adults took part, 7 males and 2 females, and only 5 were studied intensively. Such a small, mostly male sample may not represent how everyone dreams, for example women, children or the elderly, who may have different patterns of REM sleep. So we cannot generalise the link between REM and dreaming to everyone.

A second weakness is that the study lacks ecological validity. Participants slept in an unfamiliar laboratory with electrodes attached to their head, and were woken several times a night, so their sleep may not be like their normal sleep at home. Also, dream recall relies on self-report, so participants may have made up or changed details of their dreams.

Overall, the study is reliable and objective evidence that dreaming is linked to REM sleep, but the small sample and artificial setting mean we must be careful about generalising it.

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PSYCHOLOGY **9990/13**

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1 hour 30 minutes

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Answer **all** questions.

1 From the study by Schachter and Singer (two factors in emotion):

(a) Two stooges were used to manipulate emotional states. One of these stooges attempted to manipulate euphoria.

Name the other emotional state manipulated in this study.

Anger. [1]

(b) Name **two** categories an observer used to code the participants' behaviour during the euphoria conditions.

1 *Joins in activity.*

2 *Ignores stooge.*

[2]

(c) Outline **one** conclusion from this study.

Emotion has two factors: physiological arousal and a cognitive label. If people have no explanation for their arousal, they use cues from the situation (e.g. another person's behaviour) to label it, so the same arousal can be felt as euphoria or anger.

[2]

2 **(a)** In the study by Pepperberg, Alex the parrot was trained using the Model/Rival technique. Outline the procedure of this technique.

Two humans work together while Alex watches. One human acts as the trainer and the other as the model/rival. The trainer presents an object and asks a question about it, e.g. "What colour?". If the model/rival answers correctly, they are praised and given the object as a reward; if they answer wrongly, the trainer shows disapproval. The model/rival also competes with Alex for the trainer's attention, and the humans swap roles. Alex can join in. [3]

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(b) Name **one** colour, **one** shape and **one** material that Alex the parrot could already vocalise before the study began.

Colour: *green*

Shape: *four-corner (square)*

Material: *wood* [3]

3 Explain one or more real-world applications of the study by Milgram (obedience).
Do **not** refer to more than three applications in your answer.

Milgram's study can be used to help prevent war crimes. Armies could train soldiers about the agentic state and how easily ordinary people obey authority figures. Training could include role-play in which a senior officer gives an illegal order, so soldiers practise refusing and questioning orders that would harm civilians, and feel personally responsible for their actions rather than just "following orders".

It can also be used in workplaces such as hospitals. Managers could create a clear procedure that lets junior staff (e.g. nurses) question an order from a senior doctor if they think it will harm a patient, without being punished, reducing blind obedience.

[5]

4 From the study by Piliavin et al. (subway Samaritans):

(a) Outline **one** way in which the participants were deceived in this study.

The "collapse" of the victim was staged; he was a confederate pretending to be ill or drunk, but the passengers believed it was a real emergency, and they did not know they were taking part in a study.

..... [2]

(b) Describe the sample of participants used in this study.

The participants were approximately 4450 passengers travelling on the New York subway, on the 8th Avenue express train between 59th Street and 125th Street, on weekdays between 11 a.m. and 3 p.m. They were about 45% black and 55% white, and were both males and females. They were an opportunity sample and did not know they were in a study.

..... [3]

(c) Explain why this study is from the social approach.

The social approach assumes behaviour is influenced by other people. Here, the presence of other passengers affected helping; the more males there were in the critical area, the faster help was given to the victim.

..... [2]

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5 Describe how Saavedra and Silverman used the Child Anxiety and Phobia Program to diagnose the boy who had a phobia of buttons.

Both the boy and his mother were interviewed at the Child Anxiety and Phobia Program. They used a standardised semi-structured interview schedule, the Anxiety Disorders Interview Schedule for Children and Parents (ADIS-C/P). The boy was also assessed against the DSM-IV criteria for anxiety disorders. Both the child and mother interviews had to show a positive result, so he was diagnosed with a specific phobia of buttons, but he did not meet the criteria for OCD.

..... [4]

6 Describe the psychology that is being investigated in the study by Dement and Kleitman (sleep and dreams).

Dement and Kleitman investigated sleep and dreaming. Sleep has different stages: in REM (rapid eye movement) sleep, the eyes move quickly, brain activity is fast like being awake, and the body's other muscles are paralysed. NREM sleep includes the other stages, which have slower brain waves. A night's sleep goes through cycles of about 90 minutes. Dreaming is a subjective experience of imagery while asleep. Brain activity was measured using an EEG, which records the frequency and amplitude of brain waves through electrodes on the scalp, and eye movements were recorded with electrodes near the eyes. For example, participants recalled dreams far more often when woken in REM sleep than in NREM sleep.

..... [5]

7 From the study by Baron-Cohen et al. (eyes test):

(a) Outline **one** aim of this study.

To investigate whether adults with Asperger syndrome or high-functioning autism would perform worse on the Revised Eyes Test than the general population, showing a theory of mind deficit.

..... [2]

(b) Outline **one** methodological weakness of this study.

The Eyes Test lacks mundane realism. It used still black and white photographs of only the eye region, but in real life people judge emotions from the whole moving face, body language, voice and context.

..... [2]

(c) Suggest **one** real-world application based on the procedure of this study.

Psychologists could use the Eyes Test to help diagnose autism. Patients could take the test alongside the DSM criteria, and a low score would support the diagnosis.

..... [2]

8 **(a)** Outline what is meant by individual and situational explanations of behaviour, using any examples. Do **not** refer to the study by Bandura et al. (aggression) in your answer.

The individual explanation says that behaviour is caused by characteristics of the person, such as their personality, beliefs or biology. For example, a person who is an extravert may choose to go snowboarding because they enjoy excitement.
The situational explanation says that behaviour is caused by the environment the person is in, including other people around them. For example, in Milgram's study, participants obeyed because they were in a prestigious university and an experimenter in a lab coat gave orders.

..... [4]

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(b) Explain how **one** result from the study by Bandura et al. supports the individual explanation of aggression and how **one** result supports the situational explanation of aggression.

Result that supports the individual explanation of aggression: *About one-third of the children in the aggressive model conditions imitated the model's nonaggressive remarks, e.g. "He keeps coming back for more", but none in the other groups did.*

Explain how: *only some children in the same situation copied these remarks, so it may be due to their individual characteristics, e.g. a personality that makes them more likely to imitate any behaviour of a model.*

Result that supports the situational explanation of aggression: *Children who saw an aggressive model showed much more imitative physical and verbal aggression than those who saw a non-aggressive model or no model.*

Explain how: *the only difference between the groups was the situation they experienced, i.e. watching an adult be aggressive towards the Bobo doll, so witnessing aggression increased the children's aggressive behaviour.*

[8]

9 Evaluate the study by Yamamoto et al. (chimpanzee helping) in terms of **two** strengths and **two** weaknesses. At least one of your evaluation points **must** be about using repeated measures.

One strength of Yamamoto et al.'s study is that it used a repeated measures design. The same pairs of chimpanzees took part in both the "Can See" and "Cannot See" conditions. This means that participant variables, such as how helpful or intelligent each chimpanzee was, or how well it knew its partner, were the same in both conditions. So differences in targeted helping are more likely to be caused by whether the helper could see the recipient's situation, which increases internal validity.

A second strength is that the study was well controlled, which makes it reliable. The objects on the tray were always the same seven items, e.g. a stick, a straw, a hose and a chain, and the booths and tasks were standardised, so the study could be replicated. The data were also quantitative, e.g. how often the correct tool was offered, so the conditions can be compared.

However, one weakness of repeated measures is order effects. The chimpanzees did the "Can See" condition first, so by the "Cannot See" condition they may have learned what tool the recipient needed, or become bored or tired. This means differences between the conditions may be due to practice or fatigue, not the visibility of the partner, which reduces validity.

A second weakness is that the study lacks ecological validity. The chimpanzees were captive animals in a laboratory, in artificial booths, doing tool-use tasks with objects such as a hose and a belt that they would not meet in the wild. Their helping may not show how wild chimpanzees help each other. Also, the sample of a few captive chimpanzees in mother and offspring pairs is small, so generalising the findings is difficult.

Overall, the repeated measures design and controls give good evidence that chimpanzees can target help when they understand a need, but the artificial setting limits generalisability.

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