

Saavedra and Silverman (button phobia)

AS

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What you need to know

Saavedra and Silverman (2002) is a **case study** of one boy with a phobia of buttons, who was treated first with exposure and rewards and then with therapy aimed at his **disgust**. As with every AS core study, you should be able to:

1. **Explain the psychology being investigated: phobias, classical conditioning, evaluative learning and operant conditioning.**
2. **Give the background:** what was known about the part disgust, and not only fear, plays in children's phobias.
3. **State the aims** of the study.
4. **Describe the procedure and its methodology:** the research method (a case study using interviews, rating scales and observation), the participant and how his phobia began, the Disgust/Fear hierarchy rated on the Feelings Thermometer, the behavioural exposure sessions with his mother's rewards, the imagery exposure sessions, and the post-treatment and follow-up checks.
5. **Discuss the ethical issues:** informed consent, confidentiality, privacy and protection from psychological harm.
6. **Give the results:** how his distress ratings changed in each kind of exposure, which items he rated high and low, and how he was doing after treatment. Include the main numbers and how the ratings can be shown and interpreted.
7. **State the conclusions** that were or could be drawn.
8. **Evaluate every part of the study:** method, sample, data (quantitative and qualitative, self-report, subjective), validity, reliability, generalisability and ethics.
9. **Relate it to the AS issues and debates:** application to everyday life, individual and situational explanations, nature versus nurture and the use of children in research. No animals were used.
10. **Explain why it belongs to the learning approach,** using the approach's two assumptions, and compare it with the other learning core studies, Bandura et al. and Fagen et al.

Understand it

The psychology: phobias and how they are learned

A **phobia** is fear that has gone far beyond what the situation deserves. The person knows, at some level, that the object or situation is harmless, yet coming near it (or even thinking about it) fills them with anxiety, so they go out of their way to avoid it. A phobia of one particular thing, such as buttons, is called a **specific phobia**.

Classical conditioning is learning by **association**. Something that used to mean nothing (a **neutral stimulus**) happens at the same time as an experience that already produces a strong reaction. After that, the once-neutral thing can trigger the reaction on its own.

Evaluative learning is a kind of classical conditioning that works through **judgement** rather than danger. The person comes to see an object that used to mean nothing to them as unpleasant or "bad". This takes some thinking on their part, and the feeling it leaves behind is usually **disgust** (revulsion: "that's gross"), not fear. The person does not expect the object to harm them; they simply find it repulsive. Because the person is actively judging, this is more cognitive than ordinary classical conditioning, where the learner just reacts.

Operant conditioning is learning from **consequences**. When a behaviour is followed by a reward (**positive reinforcement**), it becomes more likely to happen again.

Background: disgust as well as fear

Phobias had mostly been treated as problems of **fear**. Saavedra and Silverman drew on work suggesting that **disgust** matters too:

- Disgust is the "yuck" reaction: being repelled by something. Add it to fear and a person has two reasons, not one, to keep away from the object, so **avoidance** becomes even stronger.
- A child can decide that an object is horrible without believing it could hurt them. With no danger expected, fear has nothing to work on, which leaves disgust as the likelier source of the bad feeling.
- Objects that once meant nothing to a child can end up triggering that "yuck" reaction.
- When children afraid of spiders were studied, their disgust and their fear dropped together, which suggests the two are tied.

If disgust helps keep a phobia going, a treatment that only tackles fear may not be enough.

The aims

- To find out what **caused** one boy's phobia of buttons, and whether **classical conditioning**, in the form of **evaluative learning**, could explain it.
- To investigate the part played by **disgust** (alongside fear) in a childhood phobia.
- To test whether **exposure** to buttons, first in real life (behavioural) and then in his imagination (imagery), would treat the phobia.
- To see whether **positive reinforcement** from his mother would help the treatment.

The participant

Feature	Detail
Who	One boy , aged 9
Background	Hispanic American
How he came to the study	His mother brought him to a Child Anxiety and Phobia Program (in Florida)
Diagnosis	Met the DSM-IV criteria for a specific phobia of buttons; did not meet the criteria for OCD (obsessive-compulsive disorder)
When the phobia began	At age 5 , so about 4 years before the study

How the phobia began

The boy told the researchers about one event he believed had started it all. At **five years old** he was making something with buttons in an **art class** and had **used up** his buttons. He was sent to the **front of the class** to collect more from a big **bowl on the teacher's desk**. As he reached for it his **hand slipped**, the bowl **tipped over**, and the whole lot of buttons **poured down onto him**. From then on he found buttons distressing.

This fits **classical conditioning** and **evaluative learning**: buttons, which had meant nothing, were paired with an upsetting experience, and he came to judge them as disgusting. In interviews he described how he disliked buttons **touching his body**, and said he disliked how they **smelled**.

The research method and techniques

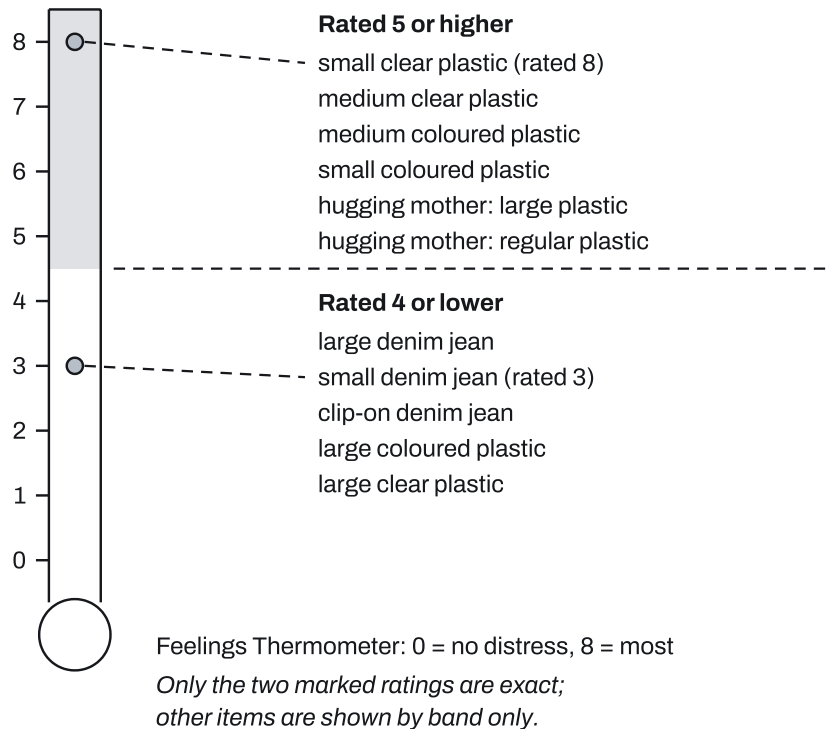
The study is a **case study**: a **single unit** (one boy, with his mother) studied **in depth** over time, through his history, measurements of his phobia and repeated checks on how it changed. The syllabus lists three techniques:

- **Interviews: semi-structured**. The same standard rating question came up again and again, while other questions followed whatever the boy said, which is how the researchers learned about his dislike of buttons on his skin.
- **Rating scales**: the Feelings Thermometer, giving **quantitative** data.
- **Observation** of what he did during the sessions.

Using several techniques lets the researchers check one source against another (**triangulation**): for example, whether the numbers he gave on the thermometer matched what he said in interview.

The Disgust/Fear hierarchy and the Feelings Thermometer

The researchers built a **hierarchy** of **11** button items, ranked from least to most upsetting. The boy rated each one on the **Feelings Thermometer**, a scale from **0** (no distress at all) to **8** (the most distress possible), which is a **9-point** scale. The ratings are his own **subjective** report of how distressing each item felt.



Rated 5 or higher (6 items)

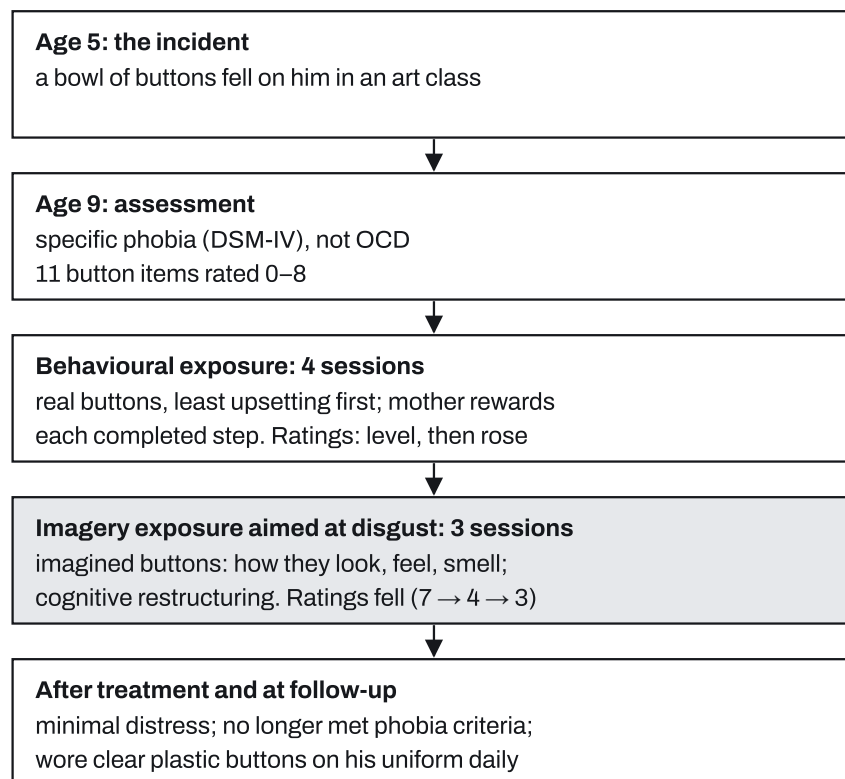
Rated 4 or lower (5 items)

Hugging his mother when she wore large plastic buttons	Large denim jean buttons
Hugging his mother when she wore regular (medium) plastic buttons	Small denim jean buttons (rated 3)
Medium coloured plastic buttons	Clip-on denim jean buttons
Medium clear plastic buttons	Large coloured plastic buttons
Small coloured plastic buttons	Large clear plastic buttons
Small clear plastic buttons (rated 8)	

The pattern: **denim** buttons and **large** plastic ones bothered him least; **smaller** plastic buttons, and close contact with buttons on his mother, bothered him most.

The treatment, step by step

Each treatment session lasted **20 minutes**, and there were two kinds of exposure, one after the other.



1. Behavioural exposure (4 sessions), with positive reinforcement

- The boy worked his way up the hierarchy in real life, dealing with actual buttons, starting from the items he found **least** upsetting.
- His **mother** gave him **positive reinforcement**, and only when he had **completed** a step of the graded exposure: the reward depended on his success.
- **Result:** this did not help. His distress ratings were **level across the first two sessions**, then **went up** from session 2 to session 3 and **again** from session 3 to session 4.

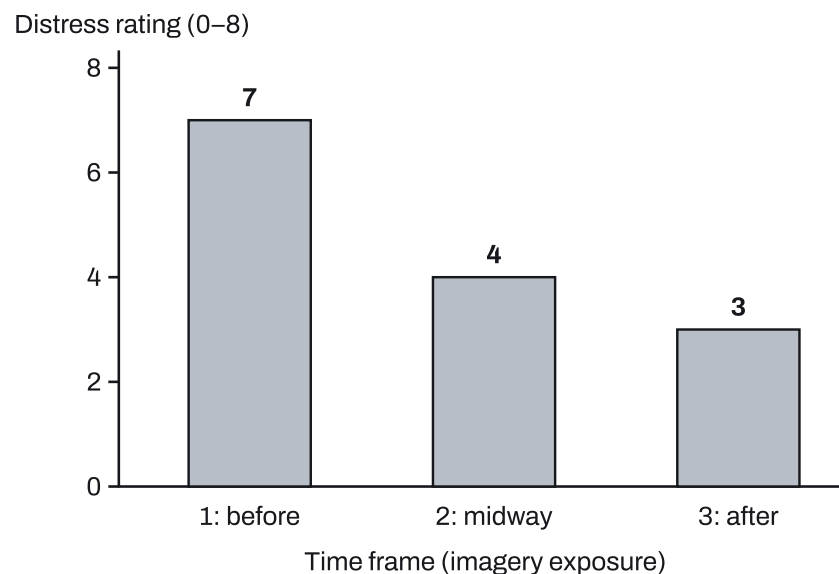
2. Imagery exposure aimed at disgust (3 sessions)

Because facing buttons and being rewarded had not lowered his distress, the therapy turned to his **disgust**:

- The therapist and boy talked through **why** he found buttons disgusting.
- He had to **imagine** button scenes: for example, hundreds of buttons dropping onto his body, or hugging his mother while her shirt was covered in buttons.
- He was asked to describe how the buttons **looked**, **felt** and **smelled**, and to say more about the feelings this brought up.
- The scenes moved from **larger** buttons to **smaller** ones (the ones he found worse).
- He was taught **self-control** (cognitive) strategies, and **cognitive restructuring** was used where needed to challenge his disgusted thoughts.
- He gave a **severity rating** at three **time frames**: **1 = before**, **2 = midway through** and **3 = after** the imagery exposure.

The results

- **Behavioural exposure:** ratings unchanged from session 1 to session 2, then a rise to session 3 and a further rise to session 4. Distress got **worse**, not better.
- **Imagery exposure:** ratings **fell** from time frame 1 to time frame 3. When imagining **hugging his mother** in a shirt full of buttons, his rating went **7 → 4 → 3**: the biggest drop came between before and midway. Another imagined scene fell **8 → 5 → 3**. Imagining buttons falling all over him also became less distressing by the end.



- **After treatment (post-treatment assessment):**
 - he reported only **minimal distress** about buttons;
 - he **no longer met the DSM criteria** for a specific phobia;
 - he was **wearing clear plastic buttons** on his **school uniform** shirt, **every day**.
- **Follow-up:** the improvement had lasted.

The conclusions

- **Disgust, not only fear, can both start a phobia and keep it alive.**
- **A phobia can be learned** through a single unpleasant experience, by evaluative learning (a form of classical conditioning).
- **Picturing the feared object in imagination, with the focus on disgust, can bring phobic distress down**, with gains that are still there at follow-up.
- **Exposure plus reward alone may not be enough** when disgust, rather than fear, is driving a phobia.

A **result** is something measured or reported about this boy ("he could wear buttons on his uniform"). A **conclusion** is a general claim about phobias or their treatment ("disgust helps maintain phobias"). Exam questions mark them separately.

Ethical issues

Guideline	What it means	In this study
Informed consent	Before saying yes, a participant must understand what will happen to them	Both the boy and his mother agreed after being told what the therapy would involve (kept)
Confidentiality	Readers of the report must not be able to work out who took part	He was not named; only his age, sex, ethnicity and the programme he attended were reported (kept)
Privacy	Each person decides how much of their inner life a researcher gets to see; a study that needs someone to open up about something embarrassing intrudes on that	The therapy only worked if he told the researchers which buttons revolted him and why, which may have embarrassed him (arguably broken)
Protection from psychological harm	Taking part shouldn't leave anyone more anxious, upset or stressed than before, and distress beyond everyday life should be avoided	He had to face buttons he dreaded and relive the classroom incident; his ratings rose during behavioural exposure (arguably broken)

On the other side, therapy began with the **least** upsetting items, his **mother** was there to reward him, and the treatment was meant to help him, which it did.

Why it is from the learning approach

The learning approach rests on two assumptions (syllabus), given here in plain words:

- **The blank slate:** a newborn has no ready-made behaviour. Everything we later do is written in by **experiences**, the people and things of our **environment**, and the result is **observable behaviour** that anyone can watch change.
- **Three ways of learning:** think of every learned action as a **stimulus-response** link. Such links get built in three ways: by association (**classical conditioning**), by consequences (**operant conditioning**) and by watching others (**social learning**).

Saavedra and Silverman fits the first: the boy was **not born** afraid of buttons; the phobia appeared **after** the art-class incident, and therapy then changed his ratings. It fits the second: the phobia is explained by **classical conditioning** (buttons became linked with a disgusting experience: evaluative learning), and the behavioural exposure used **operant conditioning** (his mother's rewards for completing each step).

Issues and debates

- **Application to everyday life:** therapists can ask clients about their **first** encounter with the feared thing; build a rated hierarchy and start at the bottom; use **imagery exposure**, including for disgust; involve a **parent** in giving rewards.

- **Nature versus nurture:** mainly **nurture:** the phobia followed a specific experience, and a different experience (therapy) reduced it.
- **Individual and situational explanations:** **situational:** the classroom incident caused the phobia, and the therapy setting changed it. **Individual:** not every child who has buttons spill on them develops a phobia, so something about this boy, such as how strongly he reacts with disgust, may matter.
- **The use of children:** a child is the right participant for studying a childhood phobia, and treating him helped him directly; but a child may find it hard to say no or to stop, which makes the parent's consent and the therapist's care more important.

Comparing with the other learning studies

Point	Saavedra and Silverman	Bandura et al. (aggression)	Fagen et al. (elephant learning)
Method	Case study	Laboratory experiment, data collected by observation	Observation (structured, with a behavioural checklist)
Data	Quantitative ratings (0–8) plus qualitative interview data	Quantitative (counts of each behaviour)	Quantitative (offers, sessions, % success)
Learning process	Classical conditioning and evaluative learning (cause); operant conditioning (treatment)	Social learning (watching a model)	Operant conditioning (rewards, shaping, chaining)
Participants	One boy	72 children	5 elephants

Key facts and formulas

There is no formula list in the 9990 exam. "Learn it" means you must remember it.

Fact	Status
Saavedra and Silverman participant: one 9-year-old Hispanic American boy; brought by his mother to a Child Anxiety and Phobia Program; met DSM-IV criteria for a specific phobia of buttons, not for OCD; phobia began at age 5	Learn it
Saavedra and Silverman cause: in an art class at age 5 he ran out of buttons, went to the teacher's desk for more, his hand slipped and a bowl of buttons fell on him	Learn it
Saavedra and Silverman Feelings Thermometer: 11 button items rated 0 (no distress) to 8 (most distress), a 9-point scale; small denim jean buttons rated 3, small clear plastic buttons rated 8	Learn it
Saavedra and Silverman behavioural exposure: 4 sessions, mother's positive reinforcement contingent on completing each step; ratings stayed the same, then rose from session 2 to 3 and 3 to 4	Learn it

Fact	Status
Saavedra and Silverman imagery exposure: 3 sessions aimed at disgust; time frames 1, 2, 3 = before, midway, after; hugging mother in a button shirt rated 7 → 4 → 3	Learn it
Saavedra and Silverman after treatment: minimal distress, no longer met DSM criteria, wore clear plastic buttons on his school uniform every day	Learn it
Percentage change = $\frac{\text{new} - \text{old}}{\text{old}} \times 100$	Learn it

How to do it

We have tagged 32 questions on this study, from 2021 to 2026 (Papers 1 and 2). 16 of them have parts of more than one type, so the counts add up to 53.

Question type	Questions
Outline a result	7
Describe the participant and how the phobia began	7
Describe the procedure or a measure	7
Learning approach: an assumption linked to the study	5
Aim, background or key term	5
Outline one strength or weakness	4
Two friends: argue one side with evidence	4
Evaluate in 10 marks: two strengths and two weaknesses	3
Compare with another core study	3
Research methods: case study, interview and techniques	3
Outline a conclusion	2
Suggest an ethical application	2
Nature versus nurture	1

1. Outline a result (7 questions)

1. **Check which part of the therapy is asked about.** Behavioural exposure and imagery exposure went in **opposite** directions. The June 2021 report says many answers about behavioural exposure gave the imagery results and scored nothing.
2. **Give a direction and a comparison**, and numbers if you know them.

Variations you will meet:

- **Behavioural exposure ratings** (1–2 marks): the same for sessions 1 and 2 (1), then up from session 2 to 3 and from 3 to 4 (1). "They increased" alone earns 1. Never quote $7 \rightarrow 4 \rightarrow 3$ or $8 \rightarrow 5 \rightarrow 3$ here.
- **Imagery exposure ratings** (1–2 marks): they fell from time frame 1 to time frame 3. For hugging his mother: 7 before, 4 midway, 3 after. **Two correct numbers with the trend earn full marks**; the biggest fall was from before to midway.
- **Post-treatment** (2 marks, one each): minimal distress; no longer met the DSM criteria for a phobia; wore clear plastic buttons on his school uniform; every day. "He improved" or "his fear went down" is not credited.
- **Items rated 5 or higher, or 4 or lower** (1 mark each): learn the two columns of the hierarchy table **in full**, with the size, colour or type of button. "Buttons" or "plastic buttons" alone scores nothing (November 2021 and November 2022 reports).

2. Describe the participant and how the phobia began (7 questions)

One mark per point, from a fixed list: one boy; 9 years old; Hispanic American; brought by his mother to a Child Anxiety and Phobia Program; met the DSM-IV criteria for a specific phobia; did **not** meet the criteria for OCD; the phobia began at 5 (four years earlier); a bowl of buttons had fallen on him at school.

- **Leave out anything printed in the question.** If it says "a boy with a button phobia", then "boy" and "button phobia" earn nothing (March 2026 report).
- **"Name the disorder he did not have"** (1 mark): **OCD**. The June 2021 report says "button phobia" and "autism" were common wrong answers.
- **"Identify the phobia"** (1 mark): buttons (koumpounophobia).
- **The incident** (4 marks): one detail each, in order: aged 5; art class project; he ran out of buttons; sent to the front for more; a large bowl on the teacher's desk; his hand slipped; the buttons all fell on him.

3. Describe the procedure or a measure (7 questions)

- **The Feelings Thermometer or the Disgust/Fear hierarchy** (2–3 marks): a ranked list of 11 button items (1); each rated for distress from 0 to 8, a 9-point scale (1); 0 = none, 8 = most (1); his own subjective rating (1); one example rating, such as small denim jean buttons at 3 or small clear plastic buttons at 8 (1). "It measured how he felt" is not enough: say **distress** about **buttons** (June 2021 report). Don't drift into the therapy sessions or the difference between disgust and fear (June 2023 report).
- **The time frames** (2 marks): 1 = before, 2 = midway through, 3 = after the imagery exposure. All three right = 2; two right = 1.
- **Positive reinforcement** (1–2 marks): it came from his **mother** (not the therapist or the researchers, November 2021 report), and only when he successfully **completed** a step of the graded exposure.
- **The disgust-related (imagery) sessions** (3 marks): talked through why buttons disgusted him; imagined buttons falling on him or hugging his mother in a button shirt; asked how they looked, felt and smelled; asked to say more about his feelings; large buttons first, then smaller; self-control strategies; cognitive restructuring. Describe what was **done**, not what happened to his ratings.

4. Learning approach: an assumption linked to the study (5 questions)

1. **The assumption** (2 marks): in full: the blank slate **plus** experience shaping observable behaviour; or that we learn through **two or more** named processes (operant conditioning, classical conditioning, social learning). One named process alone, or "the blank slate" alone, is brief (1). "We learn from the environment" or "conditioning" by itself earns nothing.
2. **A finding** from the study (1): use a **result**, not the aim or procedure (which caps the answer at 1).
3. **The explicit link** (1): say how that finding shows the assumption. For a link to a process, name its component, such as positive reinforcement.

Ready-made links:

- **Blank slate**: buttons did not bother him until the art-class incident at 5; the phobia came **after** that experience, so he was not born with it.
- **Operant conditioning**: his mother rewarded him each time he completed a step with buttons: **positive reinforcement**.
- **Classical conditioning**: buttons, once neutral, became associated with the disgusting moment they poured onto him (evaluative learning).
- If the question bans Saavedra and Silverman as the example (June 2021), use Bandura et al. or Fagen et al.

5. Aim, background or key term (5 questions)

- **Another aim** (2 marks full, 1 brief): never repeat the aim printed in the stem. Full: "to find out whether classical conditioning, through evaluative learning, could explain a boy's phobia of buttons"; "to test whether exposure to buttons, real or imagined, would reduce his phobia"; "to see whether rewards from his mother helped the treatment". Brief: "to treat his phobia" or "to find the origin of the phobia".
- **The role of disgust** (3 marks): disgust is the feeling of being repelled; added to fear, it drives avoidance; a child can find an object horrible while expecting no harm from it; with no danger to fear, disgust is the likelier cause of that reaction; in spider-phobic children, disgust and fear dropped together. Don't use the boy as your example.
- **A phobia** (2 marks): fear out of all proportion to any real danger (1), aimed at one thing or situation, which makes the person anxious whenever they face it (1). "A fear" alone is not enough.
- **Evaluative learning** (2 marks): a form of classical conditioning; a once-neutral object comes to be judged negatively; through thinking (cognitive processes); producing disgust more than fear.
- **The psychology investigated** (4 marks): general definitions of phobia, classical conditioning, evaluative learning and operant conditioning; at most **1** mark from the boy himself. The June 2022 report says many answers only gave the aims.

6. Outline one strength or weakness (4 questions)

Name it (1), then give a detail from **this** study that shows it (1).

- **Sample** (weakness): one boy with a rare, unusual phobia, so the findings may not apply to others. "Only one boy" alone is not the context mark: say what makes him unusual (March 2026 report).
- **Ethics** (weakness): his distress went **up** during the behavioural exposure sessions.
- **Control** (weakness): in a single case, there is no way to control his personal characteristics or compare him with anyone.
- **The hierarchy itself** (weakness): ratings are **subjective** self-reports, so another child's "5" may not mean the same; he may have given ratings he thought were wanted (**social desirability**) or not told the truth. "It's a case study so can't be generalised" is not about the hierarchy and scores 0.
- **Strengths**: a **standardised** procedure (every treatment session lasted 20 minutes; the same 0–8 scale every time), so it can be repeated; **ecological validity** (real therapy, real buttons); **informed consent** from the boy and his mother. The June 2021 report says many answers lost the second mark by giving no detail from the study.

7. Two friends: argue one side with evidence (4 questions)

Choose the side you're asked to, stay on it, and use study evidence in every point.

- **Generalisable** (agree): the rated hierarchy, imagery exposure and a parent's rewards are tools any therapist could pick up for a child afraid of dogs, the dark or anything else.
- **Not generalisable**: one Hispanic American boy; a rare phobia; a trigger (a bowl of buttons falling in class) that is probably unique to him; others might rate items on the thermometer quite differently.
- **Subjective** (4 marks): define it, in your own words: based on one person's own feelings and point of view (1). Then evidence: he rated his own distress; there was no objective measure such as heart rate; he decided for himself which experience had caused it; his mother may have overstated his problem; the researchers may have grown close to him; interview answers needed interpreting. "It was subjective because there was only one participant" scores 0.
- **Ethics**: one reason each way, with a named guideline. **Ethical**: informed consent from the boy and his mother, who knew what the therapy would involve; therapy began with the least upsetting items and his mother rewarded him. **Not ethical**: psychological harm: he had to confront buttons and talk about the classroom incident.
- **Four named guidelines** (2 marks each): define the guideline (1) and apply it correctly (1). The June 2022 report says many thought the child gave no consent (he did) and confused privacy with confidentiality or with the therapy happening in private.

8. Evaluate in 10 marks: two strengths and two weaknesses (3 questions)

The named issue has been subjective data, quantitative data and self-reports.

1. **Plan four points of equal depth**, one on the **named issue**; leaving it out caps the answer at Level 3.
2. For each: name it, say strength or weakness, give **two or more details** from the study, and explain **why** it matters.
3. Don't describe the procedure for its own sake.

Point	Strength or weakness	Evidence from the study
Quantitative data	Strength	0–8 ratings can be compared across sessions and time frames (7 → 4 → 3), so change in his distress can be tracked objectively
Standardisation (reliability)	Strength	Same Feelings Thermometer each time, same 11 items, 20-minute sessions, so the treatment can be repeated with others
Self-report	Strength	Only the boy knows how disgusting a button feels to him, so asking him gets at the inner experience directly
Depth (case study)	Strength	History, interviews, ratings and observation together explain both the cause and the cure
Follow-up	Strength	Checking later shows the improvement lasted, not just a short-term change
Generalisability	Weakness	One Hispanic American boy, a rare phobia, a unique trigger; we can't tell how a girl, a grown-up or a child whose fear began another way would react
Subjective data / self-report	Weakness	He rated his own distress and named the cause himself; he may have wanted to look less scared (social desirability); no physiological measure
Ethics	Weakness	His distress rose in behavioural exposure; he had to reveal what disgusted him
Quantitative data	Weakness	A "5" shows how much distress but not why; the numbers can't be compared with another child's

9. Compare with another core study (3 questions)

8 marks: a similarity (Level 1–4) and a difference (Level 1–4). Level 4 needs the point **explained**, with an example from **both** studies. If the point is not clearly stated, the answer is capped at Level 2.

1. **State the similarity or difference** in one sentence.
2. **Give the example from each study.**
3. **Explain why it matters.**

- **Methods:** Saavedra and Silverman is a **case study** (one boy, rating scales, interviews). It is **not** a laboratory experiment and **not** an observation study. Bandura et al. is an experiment; Hassett et al. and Fagen et al. collected data mainly by structured observation.
- **Good points:** both collected **quantitative** data (his 0–8 ratings; counts of behaviour); the learning process (classical conditioning and reinforcement versus social learning); direct experience versus watching a model; qualitative versus quantitative; ethics.
- **Low or banned:** "both used children", "both are from the learning approach" or "different aims" (Level 1); anything about the sample when the question bans it; "different species" counts as sample.

10. Research methods: case study, interview and techniques (3 questions)

- **Two main features of a case study** (2 marks): it studies a **single unit** (1) **in depth** (1). "Over a long time" or "a rare case" earns 0.
- **Why this was a case study** (2 marks): one boy (and his mother) = a single unit; his history, the measurement of his phobia and the tracking of how it changed = in depth.
- **Type of interview** (2 marks): **semi-structured** (1), because some questions were fixed and repeated, such as the thermometer rating, while others were flexible follow-ups (1).
- **A strength of using several techniques** (2 marks): gives both quantitative and qualitative data, so you can compare numbers and also understand reasons; or allows **triangulation**: checking whether his thermometer ratings and his comments in interview point the same way, which raises validity.

11. Outline a conclusion (2 questions)

A conclusion is a **general** claim, worth 2 when full. For example: "a phobia can be rooted in disgust as much as in fear, and that disgust can keep it going"; "treating a phobia through imagined exposure can produce improvements that are still there at follow-up"; "rewarding a child while he faces the feared object, for real or in his mind, can help cure a phobia". "Phobias can be treated" is brief (1). A fact about the boy, such as wearing buttons on his uniform, is a **result** and scores 0 (November 2021 and November 2022 reports).

12. Suggest an ethical application (2 questions)

One mark for **what** (based on a finding), one for **how** it would be done. Anything taken from the study's own therapy counts as ethical. If you suggest a therapy, **name** it, and name **imagery exposure**: the mark scheme does not credit behavioural exposure here, because his ratings rose during it.

- **What**: the boy could trace his phobia to one incident. **How**: early in therapy, ask the client to recall when the fear started, since finding the trigger may explain it.
- **What**: his mother rewarded his progress. **How**: involve a parent in a child's therapy to give praise or rewards for each step.
- **What**: imagery exposure reduced his distress. **How**: guide clients through mental pictures of the thing they fear, describing how it looks, feels and smells.
- **What**: a Feelings Thermometer showed which items were worst. **How**: give clients a 0–8 scale to score each version of what they fear, then begin treatment at the bottom of their list.

13. Nature versus nurture (1 question)

Define nurture without using the word "nurture": what we become because of what **happens to us** once we're born (1). Then the example (1): the phobia began after the bowl of buttons fell on him in class; or his distress fell through the experience of imagery therapy. "An experience" with no detail does not get the example mark.

Worked examples

Example 1

Tomas says that the boy in the study by Saavedra and Silverman (button phobia) must have been born with his fear of buttons.

(a) Using evidence from the study, explain why Tomas may be wrong. [3]

(b) Six of the boy's eleven hierarchy items were rated 5 or higher. Calculate this as a percentage, to 1 decimal place. [2]

(a) Behaviour that is learned through experience after birth comes from nurture, not inheritance (1). The boy reported no problem with buttons until he was 5, when a bowl of them tipped over onto him in an art class, so the phobia appeared after a specific event (1). His distress also fell during imagery exposure, so his reaction to buttons was changed by experience again, which would be hard to explain if it were fixed at birth (1).

(b) $\frac{6}{11} \times 100 = 54.545 \dots$ (M1) $\approx 54.5\%$ (A1).

Example 2

Mrs Adeyemi is a school counsellor. An 8-year-old pupil gags and runs away whenever she sees cotton wool, which started after an upsetting visit to a doctor.

Using the study by Saavedra and Silverman (button phobia), suggest how Mrs Adeyemi could help the pupil. Your suggestions must be ethical. [4]

She could ask the pupil to put different cotton wool items in order, from least to most upsetting, and rate each one from 0 to 8, so she can start with the easiest (1). Because the pupil gags rather than just looking scared, she could use imagery exposure: ask the girl to picture the cotton wool and say how it looks, feels and smells, moving gradually towards the worst items (1). She could talk with the pupil about the doctor's visit, to understand how the dislike was first learned (1). She could ask a parent to praise or reward the girl each time she completes a step, as the boy's mother did (1).

Example 3

Explain one similarity and one difference between the study by Saavedra and Silverman (button phobia) and the study by Fagen et al. (elephant learning). [8]

Similarity: positive reinforcement was used to change behaviour. Both studies used rewards that followed a successful step. In Saavedra and Silverman, the boy's mother rewarded him each time he completed a stage of the graded behavioural exposure. In Fagen et al., an elephant heard the whistle and was then given banana each time she performed a behaviour such as trunk up. In both, the reward came only after success, which is operant conditioning; this makes the wanted behaviour more likely to be repeated. (Level 4: explained, both studies used.)

Difference: how the data were gathered. Saavedra and Silverman was a case study: they relied on the boy's own ratings on the Feelings Thermometer and on interviews about his feelings. Fagen et al. was a structured observation: observers ticked off what each elephant did against a behavioural checklist. So the button study measured an inner feeling that only the boy could report, which is subjective, while the elephant study recorded actions anyone could see, which is easier to check between observers. **(Level 4.)**

Example 4

Evaluate the study by Saavedra and Silverman (button phobia) in terms of two strengths and two weaknesses. At least one of your evaluation points must be about ethics. **[10]**

Plan: strengths are ethics (the named issue) and quantitative data; weaknesses are generalisability and subjective self-report. Each paragraph has the point, two or more details, and why it matters.

Strength 1: ethics (the named issue). The boy and his mother both gave informed consent once they knew what the therapy would involve, and the published report did not name him, so confidentiality was kept. Exposure started with the items he rated lowest, such as denim jean buttons, and his mother was present to reward him. Since the whole study was a treatment, he gained from it: by the end he could wear buttons on his uniform. This matters because the research helped, rather than used, a vulnerable child.

Strength 2: quantitative data. Every rating was a number from 0 to 8, so the researchers could see exactly how his distress changed: for hugging his mother in a button shirt it went from 7 before imagery exposure to 3 afterwards, while behavioural exposure made ratings rise. Numbers like these make it easy to compare one therapy with another and to judge objectively whether he was improving.

Weakness 1: generalisability. There was only one participant, a 9-year-old Hispanic American boy, with a rare phobia triggered by an unusual classroom accident. Whether imagery exposure would help a teenage girl afraid of spiders, or an adult whose fear has no clear starting point, is simply unknown from this one case, so it is risky to apply the findings to everyone with a phobia.

Weakness 2: subjective self-report. Every rating came from the boy himself, with no physiological measure such as heart rate to check it. A 9-year-old may want to please the adults treating him, so he might have given lower ratings to seem braver (social desirability). Even his account of the cause was his own recollection. So the fall in ratings may not perfectly match a fall in his actual distress.

How it would be marked: four points of equal depth, each with study details and an explanation, including the named issue: the top level (9–10 marks).

Common mistakes

- **Mixing up the two exposure stages:** giving falling imagery ratings when the question asks about behavioural exposure, where ratings rose (June 2021 report). The 7 → 4 → 3 and 8 → 5 → 3 figures belong only to imagery exposure.
- **Repeating what the question already gives:** "a boy" or "a button phobia" as a feature of the sample (March 2026 report).

- **Getting his age or the start of the phobia wrong:** he was 9; the phobia began at 5 (March 2026 report).
- **Naming the wrong reinforcer:** it was his **mother**, not the therapist or Saavedra (November 2021 report).
- **Naming buttons vaguely** when asked for hierarchy items: give the full item, such as "small denim jean buttons" (November 2021 and November 2022 reports).
- **Giving a result as a conclusion:** "he wore buttons on his uniform" is a result (November 2021 and November 2022 reports).
- **Tautology:** saying the Feelings Thermometer "measured feelings" repeats the question; say it rated distress about each button item from 0 to 8 (June 2021 report).
- **Weakness with no study evidence:** naming subjectivity or social desirability without a detail from the study gets only half the marks (June 2023 report).
- **Ethics errors:** saying the boy gave no consent (he did), or treating privacy as confidentiality (June 2022 report).
- **Using Saavedra and Silverman when the question asks for a different example** (June 2021 report).
- **Giving the aims when "the psychology investigated" is asked** (June 2022 report).

How to get the marks

- **"Identify", "name" and "state":** a short, exact answer; only the first is marked.
- **"Describe"** the participant, the incident or a measure: separate facts, one mark each, from a definitive list.
- **"Outline"** an aim or conclusion: one full sentence (2); an aim states what was investigated, a conclusion is a general claim.
- **"Outline" a result or change:** direction **and** comparison, with data where you know it.
- **"Explain":** name the point (1), then link it with a detail from **this** study (1). The examiner won't make the link for you.
- **"Suggest" an application:** what (1) and how (1), clearly based on a finding, and ethical; name the therapy.
- **Two friends disagree:** pick the side asked for, define the issue, then give linked study evidence; mixing the sides caps the answer at 2.
- **"Evaluate ... two strengths and two weaknesses"** (10 marks): four equal points, the named issue included, two or more study details in each, no description.
- **Similarity and difference** (8 marks): state it, give an example from **each** study, explain why it matters; remember this is a case study, not an experiment or observation.

Quick check

1. What did 0 and 8 stand for on the Feelings Thermometer, and how many points did the scale have?
2. The boy's ratings for imagining hugging his mother were 7, 4 and 3 at time frames 1, 2 and 3. Calculate the total fall and the percentage fall from time frame 1 to time frame 3, and say which interval had the larger drop.

3. The phobia began at 5, and the boy was 9 when he was assessed. How many years had he had the phobia? Then explain why "he no longer met the DSM criteria" is a result, not a conclusion.
4. A student writes: "In behavioural exposure, his distress fell from 8 to 5 to 3." Explain what is wrong.
5. During therapy the boy had to tell the researchers exactly which buttons he found revolting and why. Which ethical guideline does this raise, and was it kept?

Answers

1. 0 = no distress, 8 = the most distress. The scale runs 0, 1, ..., 8, which is $8 - 0 + 1 = 9$ points.
2. Total fall = $7 - 3 = 4$ points. Percentage fall = $\frac{4}{7} \times 100 \approx 57.1\%$. From time frame 1 to 2 it fell by $7 - 4 = 3$, and from 2 to 3 by $4 - 3 = 1$, so the **first** interval (before to midway) had the larger drop.
3. $9 - 5 = 4$ years. It is a fact recorded about this one boy after his treatment; a conclusion would be a general claim, such as "imagery exposure that targets disgust can treat a phobia".
4. In behavioural exposure his ratings did **not** fall: they stayed the same for the first two sessions and then rose. The $8 \rightarrow 5 \rightarrow 3$ decrease comes from **imagery** exposure.
5. **Privacy**: a person decides how much of their private life a study gets to see. He had to admit what disgusted him, which may have embarrassed him, so it was arguably broken (though it was necessary for the therapy and he had consented).

Past questions to try

- 9990/12/O/N/24 Q1: naming the phobia, describing the Feelings Thermometer and post-treatment findings.
- 9990/11/O/N/23 Q4: another aim, behavioural exposure ratings and post-treatment results.
- 9990/13/M/J/23 Q8: one reason the study was ethical and one reason it was not.
- 9990/13/M/J/24 Q10: the 10-mark evaluation with quantitative data as the named issue.