The Cognitive Approach

IB SL Study Guide

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Introduction to the Cognitive Approach

The cognitive approach assumes that behaviour can be understood and explained in terms of **internal mental processes** — the way people perceive, attend to, store, retrieve, and use information. Cognitive psychologists argue that:

- Mental processes actively shape behaviour and can be studied scientifically.
- The mind functions like an **information-processing system**, similar in some ways to a computer.
- Behaviour is not simply a response to stimuli (as behaviourism claimed) but is mediated by internal representations of the world.
- These internal representations — schemas, models, memories — can be distorted, leading to errors in judgement and memory.

This approach is one of three core approaches in the IB Psychology syllabus (alongside the Biological and Sociocultural approaches). Every claim you make in the cognitive approach must be supported with a **named study**.

> **IB TIP**
>
> Every answer in IB Psychology Paper 1 must link a specific behaviour to a specific cognitive factor (schema, memory model, cognitive bias, or emotional influence on cognition) AND support it with a named study. A claim without a study receives no mark at the higher levels of the markscheme.

Schema Theory

What Is a Schema?

A **schema** is a mental framework or cognitive structure that organises and interprets information based on prior knowledge and experience. Schemas allow us to process information quickly and efficiently, but they also introduce systematic distortions into perception and memory.

Jean Piaget originally introduced the concept of schemas in developmental psychology. In cognitive psychology, schemas are understood as active, evolving structures that guide what we notice, how we interpret new information, and what we remember.

Types of Schema

Schema type	Definition	Example
Self-schema	A cognitive framework about one's own traits, abilities, and social roles	"I am a good student" or "I am introverted" — influences how we process information about ourselves
Social schema (stereotype)	A generalised schema about a social group	Expectations about how members of a group behave, which influence perception and memory of individuals
Event schema (script)	A schema for a stereotyped sequence of events	The "restaurant script": you are seated, order food, eat, pay the bill — deviations are noticed and remembered
Role schema	Expectations about how someone in a particular role behaves	Expectations about how a doctor, teacher, or police officer should act

How Schemas Influence Memory: Bartlett (1932)

The most important study for schema theory in the IB syllabus is Bartlett's "War of the Ghosts" experiment.

Aim: To investigate how prior knowledge and cultural schemas influence the reconstruction of memory.

Method: British participants read a Native American folk story called "The War of the Ghosts" — a story with cultural conventions unfamiliar to the participants. They were asked to recall the story on multiple occasions using a technique called **serial reproduction** (each participant's recall is passed to the next as a new stimulus) and **repeated reproduction** (the same participant recalls the story multiple times over increasing intervals).

Findings:

- Participants systematically **distorted the story** to make it more consistent with their own cultural schemas.
- Unfamiliar details were omitted, changed, or replaced with more familiar equivalents.
- The story became **shorter and more conventional** with each retelling.
- Certain details that were incongruous were either rationalised or transformed (e.g., "something black came out of his mouth" was sometimes recalled as "foaming at the mouth").

Conclusion: Memory is not a literal recording of events. It is an active, **reconstructive** process, shaped by existing schemas. We fill gaps in memory with schema-consistent information.

Evaluation:

Strength	Limitation
Demonstrates that memory is reconstructive, not reproductive — an influential and lasting insight	Laboratory-style study using a contrived story; low ecological validity
Conceptually replicable across many cultures and materials	Bartlett's methodology lacked standardisation — he did not use exact timing intervals or controlled conditions rigorously
Consistent with later studies (e.g., Loftus & Palmer, 1974) showing memory distortion under influence	Cultural schemas differ between participants; hard to isolate schema effects from individual variation

MEMORISE THIS

Key schema theory terms:

- **Schema** = mental framework based on prior knowledge
- **Assimilation** = fitting new information into an existing schema
- **Accommodation** = changing a schema to fit new information
- **Reconstructive memory** = memory is rebuilt from fragments and schemas, not played back like a recording

EXAM ALERT

Schema theory is one of the most commonly assessed cognitive approach topics. For an SAQ on "explain how schema theory can explain one aspect of cognitive processing," describe what a schema is, give an example type, and then use Bartlett (1932) to show how schemas distort memory recall. Always link back to the question.

Models of Memory

The Multi-Store Model (Atkinson & Shiffrin, 1968)

Atkinson and Shiffrin proposed that memory consists of three separate stores through which information passes in a fixed sequence.

Store	Encoding	Capacity	Duration
Sensory store (SS)	Various modalities (iconic = visual; echoic = auditory)	Very large — all sensory input	Extremely brief: 0.5–2 seconds
Short-term memory (STM)	Primarily acoustic (sound-based)	Limited: 7 ± 2 items (Miller, 1956)	Brief: approximately 15–30 seconds without rehearsal
Long-term memory (LTM)	Primarily semantic (meaning-based)	Effectively unlimited	Potentially permanent

Key processes:

- **Attention** — information in the sensory store that is attended to passes into STM.
- **Maintenance rehearsal** — repeating information in STM keeps it there and transfers it to LTM.
- **Retrieval** — information is brought back from LTM into STM for conscious use.

Evidence supporting the MSM:

The case of **HM (Henry Molaison)**, studied extensively by Brenda Milner and colleagues from the 1950s onward, provides some of the most compelling evidence for the MSM.

Aim: To investigate the effects of bilateral hippocampal removal on memory function.

Background: HM suffered from severe, debilitating epilepsy. In 1953, neurosurgeon William Beecher Scoville removed large portions of his medial temporal lobe bilaterally, including most of both hippocampi.

Key findings (Milner et al.):

- HM developed **profound anterograde amnesia** — he was almost completely unable to form new long-term episodic memories after the surgery.
- His **STM remained intact** — he could hold a conversation and remember information for seconds.
- His **retrograde amnesia** was partial — he retained memories from years before the surgery.
- His ability to learn new **procedural skills** (e.g., mirror drawing) remained largely intact, even though he had no conscious recollection of the practice sessions.

Conclusion: The hippocampus is critical for consolidating information from STM to LTM. The HM case directly supports the structural distinction between STM and LTM as proposed in the MSM.

Evaluation:

Strength	Limitation
Unique case with clear neurological basis for memory impairment	Single case study (N=1); highly unusual circumstances — cannot generalise
STM/LTM dissociation provides direct empirical support for the MSM	The MSM's single STM store is now considered oversimplified (see Working Memory Model)
Demonstrates the critical role of the hippocampus in memory consolidation	Ethical concerns: HM gave informed consent, but he could not consent to later studies due to his amnesia

IB TIP

The HM case is one of the most famous in all of psychology. For the IB exam, its main use is to support the distinction between STM and LTM in the Multi-Store

> Model, and to demonstrate the role of the hippocampus in memory consolidation. You can also use it to discuss the ethics of case study research.

The Working Memory Model (Baddeley & Hitch, 1974)

Baddeley and Hitch proposed a more detailed account of STM, replacing the unitary STM store of the MSM with a multi-component **working memory** system.

Component	Function	Capacity/notes
Central executive	Attention-controlling system; coordinates the other components; allocates cognitive resources	Limited capacity; modality-free
Phonological loop	Holds and rehearses sound-based (verbal/acoustic) information	Phonological store (holds sounds briefly) + articulatory control process (inner voice; rehearsal)
Visuospatial sketchpad	Holds and manipulates visual and spatial information	The "inner eye"; used for mental imagery and spatial navigation
Episodic buffer	Integrates information from the phonological loop, visuospatial sketchpad, and LTM into a coherent episode	Added by Baddeley in 2000; temporary store linking all components

Key evidence for the WMM:

- **Dual-task studies:** If two tasks use the same component (e.g., two verbal tasks both using the phonological loop), performance on both degrades. If tasks use different components, they can be performed simultaneously with less interference. This supports the idea of separate, limited-capacity components.
- The HM case also supports the WMM: HM's preserved STM for verbal information is consistent with an intact phonological loop even without hippocampal function.

Evaluation of the Working Memory Model:

Strength	Limitation
More detailed and empirically supported than MSM's single STM store	The central executive is poorly specified — it is an "explanatory catch-all" that is difficult to test directly
Dual-task methodology provides controlled experimental evidence	The episodic buffer was added later and remains the least well-evidenced component
Explains why STM is not a single, uniform store (e.g., verbal and spatial tasks compete separately)	Most research is laboratory-based — ecological validity concerns remain

⚠ EXAM ALERT

If asked to compare the MSM and WMM, the key contrast is: MSM proposes a single, passive STM store; WMM proposes multiple active components with different functions. The WMM better accounts for dual-task performance and individual differences in working memory.

▸Watch: The Cognitive Approach to Psychology VIDEO

Cognitive Biases

What Is a Cognitive Bias?

A **cognitive bias** is a systematic pattern of deviation from rational judgement, arising from the way information is processed. Biases are not random errors — they follow predictable patterns and arise from the same cognitive shortcuts (heuristics) that allow efficient thinking.

Daniel Kahneman's framework of **System 1** and **System 2** thinking helps explain why biases occur:

System	Characteristics
System 1	Fast, automatic, intuitive, unconscious, low effort — relies on heuristics and prior associations
System 2	Slow, deliberate, analytical, conscious, high effort — engages in logical reasoning and checking

Most cognitive biases arise because System 1 generates a quick, heuristic-based answer that System 2 fails to override. This is especially likely under conditions of cognitive load, time pressure, or emotional arousal.

Key Cognitive Biases

1. Confirmation bias

The tendency to seek, interpret, and remember information in ways that confirm pre-existing beliefs or schemas, while ignoring or discounting contradictory evidence.

- Example: A person who believes a particular medical treatment works will remember cases where it appeared effective and forget cases where it did not.
- Relevance: Confirmation bias interacts with schema theory — our schemas make us selectively attend to schema-consistent information.

2. Availability heuristic

Judging the likelihood or frequency of an event based on how easily an example comes to mind (its "availability" in memory). Events that are vivid, recent, or emotionally significant are more cognitively available and are therefore judged as more probable than they actually are.

- Example: After seeing news coverage of plane crashes, people overestimate the risk of flying compared to driving, even though driving is statistically far more dangerous.
- Kahneman and Tversky (1973) demonstrated that participants judged words beginning with "k" as more common than words with "k" as the third letter, simply because words beginning with letters are easier to retrieve.

3. Anchoring bias

The tendency to rely too heavily on the first piece of information encountered (the "anchor") when making decisions, and insufficiently adjusting away from that anchor.

- Example: In salary negotiation, the first number mentioned strongly influences the final outcome.
- Kahneman and Tversky showed that when participants were given an arbitrary random number (generated by a spinning wheel) before estimating the percentage of African nations in the United Nations, their estimates were significantly influenced by the random number.

MEMORISE THIS

Three cognitive biases — a quick summary:

- **Confirmation bias** = notice evidence that agrees with you, ignore the rest
- **Availability heuristic** = what comes to mind easily seems more likely
- **Anchoring bias** = the first number/fact you hear disproportionately shapes your judgement All three involve System 1 overriding or bypassing System 2.

EXAM ALERT

Kahneman is the key researcher for cognitive biases in IB Psychology. However, the IB syllabus does not specify one "Kahneman study" — know that his work is typically presented as a research program (multiple studies with Tversky) rather than one experiment. When writing an SAQ, name the specific bias, describe the heuristic it arises from, and give one supporting example or study result. Avoid vague statements like "Kahneman showed biases exist."

Emotion and Cognition

How Emotional State Affects Cognitive Processing

The cognitive approach initially downplayed emotion, focusing on "cold" information processing. Later research showed that emotion significantly shapes attention, encoding, storage, and retrieval of memories.

Mood-congruent memory: People are more likely to encode and retrieve memories consistent with their current emotional state. When depressed, people more readily recall negative memories; when happy, positive memories are more accessible.

Emotion and attention: Emotionally arousing stimuli (especially threatening ones) capture attention preferentially — this is adaptive but can bias perception.

Flashbulb Memory

Brown and Kulik (1977) proposed the concept of **flashbulb memory** — a vivid, detailed, and seemingly permanent memory for the circumstances in which one first learned of a surprising, consequential, and emotionally arousing event.

Aim: To investigate whether surprising, consequential events produce a special category of highly accurate, long-lasting memories.

Method: Brown and Kulik interviewed 80 American adults (40 Black, 40 white) about their memories of learning about the assassinations of various public figures (particularly JFK) and other shocking events. They collected reports of the circumstances — where they were, what they were doing, how they felt.

Findings:

- Almost all participants reported vivid, detailed memories of learning about JFK's assassination.
- Black participants were more likely than white participants to report flashbulb memories for assassinations of Black public figures (e.g., Martin Luther King), suggesting that personal relevance and emotional significance are key drivers.
- The vividness and confidence of these memories were unusually high.

Conclusion: Emotionally arousing, consequential events trigger a special memory mechanism (Brown and Kulik called it the **Now Print! mechanism**) that preserves the circumstances of learning in particularly detailed form.

Neisser and Harsch (1992) — Challenging Flashbulb Memory

Aim: To test the accuracy of flashbulb memories over time.

Method: The day after the Space Shuttle Challenger disaster (1986), Neisser and Harsch asked 44 students to write down exactly where they were and what they were doing when they heard the news. Two and a half years later, the same participants were asked to recall the same event.

Findings:

- Despite expressing high confidence, participants' later accounts were often **substantially different** from their original written accounts.
- 25% of participants had major inaccuracies in their later recall.
- Crucially, participants remained highly confident in their (inaccurate) later accounts.

Conclusion: Flashbulb memories are **not** uniquely accurate. They are subject to the same distortions as ordinary memories. The feeling of confidence and vividness does

not correspond to accuracy. Emotional arousal may affect the sense of certainty about a memory rather than its actual fidelity.

Evaluation — Emotion and Cognition studies:

Strength	Limitation
Neisser & Harsch used a prospective design (baseline data collected immediately after the event), providing an objective measure of change in recall	Brown & Kulik relied entirely on self-report; original accuracy cannot be verified — no prospective baseline in their study
Real-world events (Challenger disaster, assassinations) give the research high ecological validity	Individual differences in emotional response and personal relevance make it difficult to isolate the effect of emotion on memory
Neisser & Harsch directly challenges flashbulb memory theory, contributing to a more accurate model of emotional memory	Small samples in both studies limit generalisability

IB TIP

Neisser & Harsch (1992) is a strong evaluative counterpoint to Brown & Kulik (1977). In an ERQ on emotion and cognition, use both: Brown & Kulik to introduce the concept of flashbulb memory and its proposed mechanism, then Neisser & Harsch to evaluate the accuracy claim. This shows analytical depth — exactly what examiners reward.

Watch: Memory Models and Cognitive Biases VIDEO

Key Studies

You must know each study: aim, method, findings, conclusion, and evaluation.

Loftus and Palmer (1974) — Eyewitness Testimony and Leading Questions

Aim: To investigate whether the wording of a question about a car accident could influence participants' memory of the speed of impact.

Method: Participants watched a short film clip of a car accident. In Experiment 1, they were asked "About how fast were the cars going when they ____ each other?" with different verbs inserted: **smashed, collided, bumped, hit, contacted**. In Experiment 2, participants were divided into three groups — one asked with "smashed," one with "hit," and one not asked about speed at all. One week later, all participants were asked whether they had seen broken glass in the film (there was no broken glass).

Findings:

- **Experiment 1:** Mean speed estimates varied systematically with the verb used. "Smashed" produced the highest mean estimate (40.8 mph); "contacted"

produced the lowest (31.8 mph).
- **Experiment 2:** Participants in the "smashed" condition were significantly more likely to report seeing broken glass (32%) than those in the "hit" condition (14%) or the control group (12%).

Conclusion: The wording of post-event questions can alter witnesses' memory of an event. Leading questions introduce new information (a misinformation effect) that becomes incorporated into the original memory, making it difficult to distinguish what was actually seen from what was suggested. This has significant implications for police questioning and legal procedures.

Evaluation:

Strength	Limitation
Controlled experiment with random allocation — high internal validity; allows causal inference	Watching a film clip is very different from witnessing a real accident — low ecological validity; real accidents provoke stress and heightened arousal
Highly replicable; many subsequent studies have confirmed the basic misinformation effect	Demand characteristics — participants may have assumed the film involved high-speed impact because they were asked about speed, rather than genuinely misremembering
Direct practical application — influenced real police interview guidelines (e.g., the UK Cognitive Interview)	Ethical issues are minimal, but participants were not informed the film was the focus until after viewing

MEMORISE THIS

Loftus & Palmer (1974) — the essential numbers:

- "Smashed" = 40.8 mph
- "Contacted" = 31.8 mph
- Broken glass reported: "smashed" 32%, "hit" 14%, control 12% These specific figures are cited by top-band IB responses. Vague descriptions ("the verb changed their estimates") score lower than precise findings.

Bartlett (1932) — Schema Theory and Reconstructive Memory

See the full description in the Schema Theory section above. For exam purposes, the key points to memorise are:

- **Study:** Serial and repeated reproduction of "The War of the Ghosts."
- **Key finding:** Unfamiliar cultural content was distorted to match participants' existing schemas.
- **Conclusion:** Memory is reconstructive, not reproductive — schemas actively shape recall.

- **IB use:** Evidence for schema theory; demonstrates cognitive distortion; reconstructive memory.

HM (Milner et al.) — Bilateral Hippocampal Removal and Memory

See the full description in the Multi-Store Model section above. Key exam points:

- **STM intact; LTM formation destroyed** — direct evidence for the STM/LTM distinction in the MSM.
- **Procedural memory unaffected** — suggests different memory systems (procedural vs. episodic/declarative).
- **Hippocampus** = critical for consolidation from STM to LTM.
- **Limitation:** Single case study, N=1, highly unusual surgical circumstances.

Kahneman — System 1 and System 2 Thinking

Kahneman's dual-process framework (developed across multiple studies with Amos Tversky and summarised in his 2011 book *Thinking, Fast and Slow*) provides the theoretical basis for cognitive biases in the IB syllabus.

Core claim: Human cognition operates via two systems. System 1 (fast, automatic, heuristic-based) generates quick judgements that System 2 (slow, effortful, analytical) may or may not override. Most cognitive biases arise when System 1's shortcuts produce systematic errors that are not corrected by System 2.

Key supporting findings:

- **Anchoring:** Arbitrary numbers (e.g., from a spinning wheel) significantly influence numerical estimates even when participants know the anchor is random.
- **Availability heuristic:** Frequency judgements are driven by ease of retrieval, not actual statistical frequency (Kahneman & Tversky, 1973).
- **Framing effect:** The same information presented differently (e.g., "90% survival rate" vs "10% mortality rate") leads to different choices — a System 1 response to the emotional framing.

Evaluation:

Strength	Limitation
Enormous empirical support across many experiments and cultures	”System 1” and “System 2” are metaphors — they do not directly correspond to distinct brain structures, limiting neurological specificity
Practical applications: medical decision-making, financial behaviour, policy design (nudge theory)	The framework is sometimes criticised for overemphasising irrationality; humans often make good decisions despite heuristic use
Cross-cultural replications increase generalisability	Some studies use hypothetical scenarios — behaviour in real high-stakes situations may differ

Evaluation of the Cognitive Approach

Strengths

- **Scientific rigour:** Cognitive psychology uses controlled experiments (e.g., Loftus & Palmer, 1974; dual-task studies) that generate replicable, falsifiable findings.
- **Practical applications:** Has informed real-world practices — police interview techniques (Cognitive Interview based on Loftus’s work), CBT (Cognitive Behavioural Therapy for depression and anxiety), and evidence-based educational strategies.
- **Explanatory power:** Explains behaviours that biological and behaviourist approaches cannot — the role of interpretation, belief, and expectations in shaping behaviour.
- **Integration:** Connects naturally to biological explanations (e.g., memory models supported by neurological evidence from HM) and sociocultural explanations (e.g., cultural schemas shape perception).

Limitations

- **Machine analogy:** The computer metaphor of the mind is an oversimplification. Human cognition is influenced by emotion, motivation, and social context in ways that computers are not.
- **Ecological validity:** Many cognitive experiments use artificial tasks in controlled laboratory settings. Performance on a word-list recall task or a film clip of an accident may not reflect real-world cognitive functioning.
- **Reductionism:** Cognitive explanations can reduce complex behaviour to information processing, ignoring emotional, developmental, and cultural factors.
- **Introspection and self-report:** Some cognitive research relies on participants’ self-reports of their mental states, which are themselves subject to cognitive biases.
- **Individual differences:** The approach often treats cognitive processes as universal, understating the degree to which schemas, biases, and memory are shaped by culture and personal history.

Paper 1 SAQ and ERQ Tips — Cognitive Approach

What the Examiner Looks For

For SAQs (9 marks):

IB Psychology SAQs on the cognitive approach typically ask you to:

- Describe or explain one cognitive process (schema, memory model, cognitive bias).
- Describe one study related to a specific cognitive concept.
- Explain how one cognitive factor influences behaviour.

A top-band SAQ must:

1. Define or clearly describe the cognitive concept.
2. Name and describe a relevant study (aim, method, key findings, conclusion).
3. Explicitly link the study to the cognitive concept in the question.

For ERQs (22 marks):

ERQs on the cognitive approach may ask you to:

- Evaluate one or more cognitive theories or models.
- Discuss the extent to which cognitive factors explain a specific behaviour.
- Evaluate a cognitive study (or compare two).

A top-band ERQ must include a clear thesis, at least two studies described in detail, genuine evaluation (strengths and limitations of both the studies and the theory), counter-arguments, and a balanced conclusion.

WORKED EXAMPLE

Model SAQ plan — "Describe one study related to cognitive processing" (9 marks):

1. Identify the study: Loftus & Palmer (1974).
2. Aim: to investigate whether leading questions alter eyewitness memory of a car accident.
3. Method: participants watched a film of a car accident; one group asked "how fast were the cars going when they smashed into each other?" other group "when they hit each other?" One week later, asked if they saw broken glass (there was none).
4. Findings: "smashed" group estimated higher speed (40.8 mph vs approx. 31.8 mph for "contacted"); 32% of "smashed" group reported broken glass vs 14% ("hit") and 12% (control).
5. Conclusion: post-event leading questions can alter memory — the misinformation effect.
6. Link: this demonstrates that cognitive processing of memory is reconstructive and vulnerable to distortion — consistent with schema theory (Bartlett, 1932).

⚠ EXAM ALERT

The most common SAQ error on the cognitive approach: describing a study accurately but failing to connect it to the specific cognitive concept in the question. Always write a linking sentence: "This supports [schema theory / the reconstructive nature of memory / the influence of emotion on cognition] because…"

May 2026 Exam Predictions — Cognitive Approach

Based on past paper patterns and the IB 2022 Psychology syllabus, the following topics are most likely to appear in the May 2026 Paper 1 cognitive approach questions:

High probability SAQ topics:

- Schema theory with Bartlett (1932) — asked in multiple past sessions; always a safe preparation.
- One study related to reconstructive memory (Loftus & Palmer, 1974 is the canonical choice).
- The Multi-Store Model: outline the model with reference to one study (HM case).
- Emotion and cognition: describe one study (Brown & Kulik 1977 or Neisser & Harsch 1992).

High probability ERQ topics:

- Evaluate one cognitive model of memory (MSM or WMM — most likely MSM with HM and dual-task evidence).

- Discuss the extent to which cognitive biases explain human behaviour (requires Kahneman + evaluation).
- Evaluate the cognitive approach to understanding behaviour (requires at least two studies and genuine strengths/limitations analysis).

> **IB TIP**
>
> The IB regularly pairs a schema theory SAQ with a memory ERQ in the same session. If you see a schema SAQ in Section A, the Section B ERQ is more likely to be on memory models or emotional cognition. Prepare both to full ERQ depth.

Practice Questions

Short-Answer Questions (SAQs — 9 marks each)

SAQ 1. Explain schema theory with reference to one relevant study.

Model answer framework:

- Define schema (mental framework based on prior knowledge that guides perception and memory).
- Name the study: Bartlett (1932), "War of the Ghosts."
- Aim, method (serial reproduction of unfamiliar folk story with British participants), findings (systematic distortion toward cultural schemas), conclusion (memory is reconstructive).
- Link: Bartlett's findings directly support schema theory — participants assimilated unfamiliar material into existing cultural schemas.

SAQ 2. Describe the Multi-Store Model of memory.

Model answer framework:

- Three stores: sensory store, STM, LTM — describe encoding, capacity, duration for each.
- Key processes: attention (SS to STM), maintenance rehearsal (STM to LTM), retrieval (LTM to STM).
- Support with HM case: bilateral hippocampal removal destroyed ability to consolidate from STM to LTM, while STM remained intact — supports the structural distinction.

SAQ 3. Outline one study related to the influence of emotion on cognitive processing.

Model answer framework:

- Choose Brown & Kulik (1977) or Neisser & Harsch (1992).
- Brown & Kulik: aim (investigate whether surprising, consequential events produce special memories), method (interviews about JFK assassination and other events), findings (vivid, detailed memories reported; personal relevance

affected frequency of flashbulb memories), conclusion (Now Print! mechanism proposed).
- Alternatively, Neisser & Harsch: prospective design; 25% major inaccuracies two and a half years later despite high confidence.
- Link: emotion enhances confidence in memories but does not guarantee accuracy.

SAQ 4. Describe one cognitive bias and explain how it affects behaviour.

Model answer framework:

- Choose confirmation bias, availability heuristic, or anchoring bias.
- Define the bias clearly.
- Describe the Kahneman/Tversky research finding (e.g., availability: words beginning with "k" judged more common because they are easier to retrieve).
- Explain the System 1 mechanism: quick, heuristic-based System 1 processing generates the biased response; System 2 fails to override it.
- Behavioural implication: e.g., availability heuristic causes people to overestimate risk of vivid, memorable events.

Extended Response Questions (ERQs — 22 marks each)

ERQ 1. Evaluate one model of memory.

Answer guidance:

- **Thesis:** The Multi-Store Model (Atkinson & Shiffrin, 1968) provides a foundational account of memory as three structurally distinct stores, supported by neurological evidence, but is limited by its oversimplification of STM.
- **Describe the MSM** in full (three stores; encoding, capacity, duration for each; key processes).
- **Study 1:** HM case — aim, method, findings, conclusion. Supports the STM/LTM distinction and the role of the hippocampus in consolidation.
- **Evaluate strengths of MSM:** supported by neurological evidence (HM); testable predictions about encoding and capacity; influential in generating subsequent research.
- **Evaluate limitations:** STM treated as a single, passive store — contradicted by dual-task evidence showing STM has distinct components (Baddeley & Hitch's WMM); ignores the role of emotion, motivation, and context in memory.
- **Counter-argument:** The WMM provides a more nuanced account of STM as an active, multi-component system; dual-task studies support separate phonological and visuospatial components.
- **Conclusion:** The MSM remains valuable as a framework and is supported by neurological evidence, but the WMM better accounts for the complexity of short-term memory processes.

ERQ 2. Discuss the extent to which cognitive biases explain human behaviour.

Answer guidance:

- **Thesis:** Cognitive biases offer a well-evidenced account of systematic errors in human judgement, arising from dual-process cognition, but their explanatory scope is limited by cultural variation and ecological validity concerns.
- **Describe Kahneman's System 1/System 2 framework** and explain how biases arise.
- **Study 1:** Availability heuristic — Kahneman & Tversky (1973) — frequency judgements driven by ease of retrieval, not actual frequency.
- **Study 2:** Loftus & Palmer (1974) — post-event suggestion creates misinformation effect, demonstrating that memory for witnessed events is reconstructive and cognitively biased.
- **Evaluate strengths:** experimental evidence with high internal validity; practical applications (medical decision-making, jury instructions, police interviews).
- **Evaluate limitations:** laboratory studies use artificial tasks; individual and cultural differences in susceptibility to biases; most participants in foundational studies were WEIRD populations.
- **Counter-argument:** Some biases (e.g., availability heuristic) may be adaptive in most real-world contexts — they are fast and approximately correct much of the time; framing as purely irrational is contested.
- **Conclusion:** Cognitive biases provide a compelling and practically important explanation for many systematic errors in human behaviour, but cultural, emotional, and contextual factors also shape judgement — a full account requires integration with sociocultural and biological perspectives.