

IB Psychology - New Syllabus (First Assessment 2027)

Internal Assessment Model Answer

Title of the investigation

Do people remember funny stimuli better than neutral ones?

IB student code

xyz123.

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2069.



Introduction

Students are often expected to remember large amounts of information for exams, projects, and presentations. Many report feeling that their memory “switches off” during revision, especially when the material feels dull or repetitive. This raises a practical question: could learning be improved if studying were made more enjoyable? Humour is one way to make information more engaging, and research suggests that funny material may be easier to remember. Understanding whether humour actually helps memory could provide teachers and students with a simple, positive strategy for improving learning outcomes.

The real-life problem explored in this proposal is that many students struggle to maintain focus and recall when studying for assessments. Forgetting key ideas can lower confidence and performance, which may increase stress levels and reduce motivation. If introducing humour—such as cartoons, memes, or jokes related to a topic—enhances recall, it could make revision both more effective and enjoyable. The population of interest in this proposal is high-school students aged 16–18, who regularly experience heavy cognitive demands in preparation for academic assessments. Finding simple, ethical ways to boost their memory could have a meaningful impact on both learning and well-being.

Psychological research offers some evidence that humour strengthens memory. **Schmidt (1994)** investigated whether people remember humorous sentences better than non-humorous ones. Participants read a list of mixed sentences and were later tested on their recall. Results showed that humorous sentences were remembered more accurately and for longer periods than neutral sentences. Schmidt concluded that humour promotes distinctive and elaborative encoding—the process of linking new information to existing knowledge in a more meaningful way. When something makes us laugh, it becomes unique and emotionally charged, which helps it stand out during recall. This supports the idea that humour could be used as a simple cognitive tool to improve memory performance.

A later study by **Schmidt and Williams (2001)** extended these findings using pictures rather than sentences. They asked participants to view a series of cartoons, half humorous and half neutral, and then tested recognition memory. Consistent with earlier results, participants recognised humorous images significantly more often than neutral ones. The researchers suggested that humorous material triggers emotional arousal and attention, which in turn strengthens memory traces. They also noted that visual humour, such as cartoons, may engage both verbal and visual processing systems, further improving recall. This suggests that humorous images—like those shared in social media or classroom slides—could have measurable cognitive benefits.

Together, these studies show that humour can make information more memorable, possibly because it increases attention, emotional engagement, and distinctiveness. However, most of the existing research has been conducted with adult participants, often university students, in laboratory conditions. It is less clear whether the same effect would occur in younger learners within a school context.

The aim of the present investigation is to test whether humorous images lead to better recognition memory than neutral images in high-school students aged 16–18. If humour indeed enhances memory performance, it could offer a simple, positive strategy for students and teachers to make learning both more effective and enjoyable.

Research Methodology

The proposed study will use a **true experiment** to investigate whether humorous images improve recognition memory compared with neutral images. An experiment is the most suitable method for this question because it allows the researcher to manipulate one variable (the type of image viewed) while controlling others, helping to establish cause and effect. Other methods such as interviews or observations could describe attitudes toward humour or record laughter, but they would not show whether humour directly changes memory performance. An experiment enables comparison between conditions and uses quantitative data, which can be statistically analysed to determine whether any differences are significant.

A **repeated-measures design** will be used so that each participant experiences both humorous and neutral image conditions. This design is efficient because it controls for individual differences such as intelligence, memory ability, and sense of humour—factors that could otherwise affect results. The independent variable (IV) will be the **type of image**, with two levels: humorous and neutral. The dependent variable (DV) will be **recognition memory**, measured as the percentage of images correctly identified as “old” or “new” in a later test. A manipulation check using a short rating scale will confirm that participants found the humorous images genuinely funnier than the neutral ones.

The **sample** will consist of 20 high-school students aged 16–18, selected using **opportunity sampling** from psychology classes. This population is ideal because the research question focuses on students’ learning and memory, making the results directly relevant to their everyday experiences. The study will take place in a classroom during a normal lesson. This familiar environment will help participants feel comfortable and reduce anxiety that might interfere with performance.

The **procedure** will follow these main steps. First, participants will be briefed about the general purpose of the study (a memory test) and will give informed consent. They will then view a slideshow of 20 images: 10 humorous and 10 neutral, each shown for three seconds. The order will be counterbalanced so that half the group sees the humorous set first and the other half sees the neutral set first, controlling for order effects. After a short distractor activity in which participants are asked to name fruit beginning with all the letters of the alphabet lasting two minutes, participants will complete a recognition test containing the original images plus an equal number of new ones. They will mark on an answer sheet whether each image is “old” or “new.” Finally, they will rate the set of images on a five-item **Stimulus Appraisal Scale**, indicating perceived funniness, positivity, arousal, distinctiveness, and memorability.

Ethical considerations are especially important when working with student participants. The study will follow the British Psychological Society's ethical guidelines. Informed consent will be obtained, and participation will be voluntary with the right to withdraw at any time without penalty. No identifying information will be collected; responses will be coded anonymously and stored securely. All images will be pre-screened to ensure they are appropriate for a school audience and free from offensive or distressing content. After the recognition test, participants will be fully **debriefed**. The true aim—testing the effect of humour on memory—will be explained, and any questions will be answered. This debriefing helps protect participants from deception or misunderstanding.

In summary, an experimental method is the most appropriate approach because it allows for controlled manipulation of humour and objective measurement of memory outcomes. The planned procedure is simple, ethical, and feasible in a school setting. By following standardised steps and ensuring participants' welfare, the study can provide valid and meaningful insights into whether humour genuinely improves students' ability to remember information.

Data Collection

This study will collect data using two complementary tools (See Appendix A): an **objective recognition test** to measure memory accuracy and a **five-item Stimulus Appraisal Scale** to check that the humour manipulation worked as intended. Both tools directly measure behaviour relevant to the research aim—whether humorous images enhance recognition memory compared with neutral ones. The recognition test provides quantitative data on actual memory performance, while the rating scale verifies participants' subjective experience of humour, ensuring that the independent variable has been effectively operationalised.

The **Recognition Answer Sheet** lists 40 numbered images presented during the test phase: 20 previously seen ("old") and 20 new ("foil") images. Participants circle "Old" or "New" for each image, indicating whether they recognise it. Each response will be scored as a *hit*, *miss*, *false alarm*, or *correct rejection*. From this, a recognition accuracy score can be calculated (percentage correct or signal-detection measure d'). This tool measures the dependent variable—memory performance—objectively and consistently across participants. Because the same procedure and materials are used for everyone, the tool supports standardisation and enhances reliability.

The **Stimulus Appraisal Scale** consists of five Likert-type items, each rated from 1 ("Not at all") to 5 ("Extremely"). These items measure participants' perceptions of the images' humour and emotional qualities:

The images were funny.

I felt positive while viewing the images.

The images were exciting or attention-grabbing.

The images were distinctive compared with everyday pictures.

I thought these images would be easy to remember.

This scale was created to assess the *manipulation check*—whether the humorous images are genuinely perceived as more amusing and distinctive than the neutral ones. Each item was selected to capture a different theoretical mechanism that might explain the humour–memory link. "Funny" directly measures the intended independent variable (humour). "Positive" and "exciting" measure emotional arousal, which previous studies (e.g., Schmidt & Williams, 2001) suggest enhances encoding. "Distinctive" assesses cognitive uniqueness, and "easy to remember" reflects perceived memorability, linking subjective judgments to objective recall. Using a five-point scale allows variability in responses while keeping data simple to analyse quantitatively. The average rating across the five items provides a manipulation score for each condition, ensuring that humour differences are real rather than assumed.

Several decisions were made to ensure the tool's validity and feasibility. Questions were written in clear, everyday language to suit a 16–18-year-old audience and avoid confusion. The order of items alternates between affective and cognitive aspects to reduce response bias. The same scale anchors are used for all items to maintain consistency. Because humour can be subjective, items were piloted informally with a small group to check that students interpreted them as intended. These steps support both content validity (measuring humour-related constructs) and face validity (participants can easily see what is being measured).

There are, however, potential challenges in collecting data. **Participant variability** may influence results: some students naturally have better memory or different senses of humour. Using a within-subjects design reduces this by having each person serve as their own control. **Order effects** (boredom or practice) could affect performance if all participants viewed the same sequence; counterbalancing image order helps to control this. **Response bias** might occur if participants feel pressured to say they found the images funny; ensuring anonymity and stressing that there are no “right answers” should minimise this. **Researcher bias** can be reduced by using standardised instructions and identical presentation times. **Demand characteristics**—participants guessing the aim—are addressed by giving a neutral cover story (“a study about picture memory”) until debriefing. Finally, **validity of the data collection tool** depends on whether the humorous and neutral images are truly different only in humour. Pilot testing and pre-screening will ensure they are matched for colour, complexity, and emotional tone.

Overall, the data collection tools are appropriate and effective for the research question. The recognition test provides objective quantitative data on memory performance, and the five-item appraisal scale verifies that the humour manipulation worked as intended. Together they ensure that the study can accurately test whether humour genuinely enhances memory among high-school students.

Discussion

If the investigation produces results consistent with expectations, participants will remember more humorous than neutral images and will report higher confidence ratings for those items. This outcome would suggest that humour enhances recognition memory, possibly because it increases attention, emotional engagement, and distinctiveness during encoding. Such findings would extend earlier research (Schmidt, 1994; Schmidt & Williams, 2001) by showing that the humour effect occurs among high-school students as well as adults. If the results instead show no difference, this might indicate that the benefits of humour for memory depend on other factors, such as age, mood, or type of humour used. Either way, the study would contribute useful insight into how emotional content influences memory in young people.

The potential findings have several practical implications. If humour strengthens memory, teachers could incorporate light humour, cartoons, or amusing examples into lessons to improve engagement and recall. For students, using humour in revision—such as creating funny mnemonics or humorous summaries—could make studying both more enjoyable and more effective. On a wider level, the results could inform **school well-being and learning policies**, encouraging teaching practices that use positive emotions to support cognitive performance. Humour in the classroom might also help reduce stress and build a positive learning environment, promoting emotional well-being alongside academic success. While this would not replace existing evidence-based teaching methods, it could complement them by showing that laughter genuinely aids learning.

Future research could expand these findings by examining whether the humour effect varies across cultures, age groups, or subjects, or whether its influence persists over time. It could also explore interactions between humour and other emotions, such as surprise or embarrassment, to develop a richer understanding of how emotional stimuli shape memory. These directions could eventually inform educational psychology programmes and professional development initiatives that help teachers apply psychological research in practical ways.

As with any investigation, **researcher bias** could affect this study. My personal interest in education and student well-being influenced my choice of topic; I value humour as a positive teaching tool and may therefore expect results that confirm its benefits. As a teacher-researcher, I also share cultural and social similarities with the participants, which could shape how I interpret or select humorous materials. To reduce bias, I would pre-test all images with an independent group to confirm which are genuinely humorous or neutral. During analysis, I would focus on quantitative data rather than personal impressions, and I would report the findings objectively, regardless of whether they align with my expectations.

To gain a more holistic understanding of the relationship between humour and memory, the topic could also be explored using a **semi-structured interview**. Interviewing participants after the experimental task would allow them to describe their experiences in more detail—for example, what made some images more memorable and how humour affected their attention. This qualitative approach would capture personal perspectives that numbers alone cannot, revealing differences in sense of humour, engagement, or emotional response. Combining both experimental and interview methods would produce a richer picture of how and why humour affects memory, offering valuable insight for educators, psychologists, and students alike.

References

Schmidt, S. R. (1994). Effects of humor on sentence memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 20(5), 953–967. <https://doi.org/10.1037/0278-7393.20.5.953>

Schmidt, S. R., & Williams, A. R. (2001). Memory for humorous cartoons. *Memory & Cognition*, 29(2), 305–311. <https://doi.org/10.3758/BF03194924>

Appendix

Appendix A: Data Collection Tool

Part 1 – Recognition Answer Sheet

Instructions to participants:

You will see 40 images, one at a time. Some of these you have already seen, and some are new. For each image, please circle whether you think it is OLD (you saw it before) or NEW (you have not seen it before).

Also circle how confident you are in your answer (1 = just guessing, 5 = completely sure).

| Image No. | Old or New (circle one) | Confidence (1–5) |
|-----------|-------------------------|------------------|
| 1 | OLD / NEW | 1 2 3 4 5 |
| 2 | OLD / NEW | 1 2 3 4 5 |
| 3 | OLD / NEW | 1 2 3 4 5 |
| 4 | OLD / NEW | 1 2 3 4 5 |
| 5 | OLD / NEW | 1 2 3 4 5 |
| 6 | OLD / NEW | 1 2 3 4 5 |
| 7 | OLD / NEW | 1 2 3 4 5 |
| 8 | OLD / NEW | 1 2 3 4 5 |
| 9 | OLD / NEW | 1 2 3 4 5 |
| 10 | OLD / NEW | 1 2 3 4 5 |

... (continue to Image 40)

Scoring guidance (for researcher):

- Hit: Old image marked “Old.”
- Miss: Old image marked “New.”
- False alarm: New image marked “Old.”
- Correct rejection: New image marked “New.”

Use these to calculate a recognition accuracy score (e.g., % correct or d').

Part 2 – Stimulus Appraisal Scale

Instructions to participants:

Please think about the images you viewed in this activity and rate how you felt about them. Circle one number for each statement. (1 = Not at all, 5 = Extremely)

| No. | Statement | 1 | 2 | 3 | 4 | 5 |
|-----|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | The images were funny. | <input type="radio"/> |
| 2 | I felt positive while viewing the images. | <input type="radio"/> |
| 3 | The images were exciting or attention-grabbing. | <input type="radio"/> |
| 4 | The images were distinctive compared with everyday pictures. | <input type="radio"/> |
| 5 | I thought these images would be easy to remember. | <input type="radio"/> |

Scoring guidance (for researcher):

- Reverse scoring is not required.
- Compute the mean rating across all five items for each condition (humorous vs. neutral).
- Higher scores indicate greater perceived humour, positivity, arousal, and distinctiveness—confirming that the humour manipulation worked.