

Markscheme

May 2023

Psychology

Higher level

Paper 1

© International Baccalaureate Organization 2023

All rights reserved. No part of this product may be reproduced in any form or by any electronic or mechanical means, including information storage and retrieval systems, without the prior written permission from the IB. Additionally, the license tied with this product prohibits use of any selected files or extracts from this product. Use by third parties, including but not limited to publishers, private teachers, tutoring or study services, preparatory schools, vendors operating curriculum mapping services or teacher resource digital platforms and app developers, whether fee-covered or not, is prohibited and is a criminal offense.

More information on how to request written permission in the form of a license can be obtained from <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

© Organisation du Baccalauréat International 2023

Tous droits réservés. Aucune partie de ce produit ne peut être reproduite sous quelque forme ni par quelque moyen que ce soit, électronique ou mécanique, y compris des systèmes de stockage et de récupération d'informations, sans l'autorisation écrite préalable de l'IB. De plus, la licence associée à ce produit interdit toute utilisation de tout fichier ou extrait sélectionné dans ce produit. L'utilisation par des tiers, y compris, sans toutefois s'y limiter, des éditeurs, des professeurs particuliers, des services de tutorat ou d'aide aux études, des établissements de préparation à l'enseignement supérieur, des fournisseurs de services de planification des programmes d'études, des gestionnaires de plateformes pédagogiques en ligne, et des développeurs d'applications, moyennant paiement ou non, est interdite et constitue une infraction pénale.

Pour plus d'informations sur la procédure à suivre pour obtenir une autorisation écrite sous la forme d'une licence, rendez-vous à l'adresse <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

© Organización del Bachillerato Internacional, 2023

Todos los derechos reservados. No se podrá reproducir ninguna parte de este producto de ninguna forma ni por ningún medio electrónico o mecánico, incluidos los sistemas de almacenamiento y recuperación de información, sin la previa autorización por escrito del IB. Además, la licencia vinculada a este producto prohíbe el uso de todo archivo o fragmento seleccionado de este producto. El uso por parte de terceros —lo que incluye, a título enunciativo, editoriales, profesores particulares, servicios de apoyo académico o ayuda para el estudio, colegios preparatorios, desarrolladores de aplicaciones y entidades que presten servicios de planificación curricular u ofrezcan recursos para docentes mediante plataformas digitales—, ya sea incluido en tasas o no, está prohibido y constituye un delito.

En este enlace encontrará más información sobre cómo solicitar una autorización por escrito en forma de licencia: <https://ibo.org/become-an-ib-school/ib-publishing/licensing/applying-for-a-license/>.

Section A markbands

| Marks | Level descriptor |
|--------------|---|
| 0 | <ul style="list-style-type: none"> The answer does not reach a standard described by the descriptors below. |
| 1–3 | <ul style="list-style-type: none"> The response is of limited relevance to or only rephrases the question. Knowledge and understanding is mostly inaccurate or not relevant to the question. The research supporting the response is mostly not relevant to the question and if relevant only listed. |
| 4–6 | <ul style="list-style-type: none"> The response is relevant to the question, but does not meet the command term requirements. Knowledge and understanding is accurate but limited. The response is supported by appropriate research which is described. |
| 7–9 | <ul style="list-style-type: none"> The response is fully focused on the question and meets the command term requirements. Knowledge and understanding is accurate and addresses the main topics/problems identified in the question. The response is supported by appropriate research which is described and explicitly linked to the question. |

Section A

Biological approach to understanding behaviour

1. Outline **one** technique used to study the brain in relation to behaviour, with reference to **one** relevant study. **[9]**

Refer to the paper 1 section A markbands when awarding marks.

The command term “outline” requires candidates to brief account or summary of one technique used to study the brain in relation to behaviour with reference to one relevant study.

Brain imaging techniques may include, but are not limited to:

- fMRI
- MRI
- PET scans

Relevant studies may include, but are not limited to:

- Fisher, Aron and Brown’s (2005) study using fMRI to investigate dopamine and love
- Sharot et al.’s (2007) study using fMRI on activation of the amygdala in flashbulb memory
- Antonova et al.’s study using fMRI to investigate hippocampal activity in the creation of spatial memory
- Maguire (2000) study using MRI to compare hippocampal volume related to navigational skills in taxi drivers
- Draganski’s (2004) study using MRI to investigate the effect of juggling on neuroplasticity in the mid-temporal lobe
- Corkin’s (1997) study using MRI to investigate the effect of damage to HM’s medial temporal lobes in relation to memory formation
- Raine et al.’s (2007) study using PET scans to investigate amygdala and prefrontal cortex activity in murderers.

If a candidate outlines one technique used to study the brain in relation to behavior without reference to a relevant study, up to a maximum of **[5]** should be awarded.

If a candidate describes a relevant study without outlining one technique used to study the brain in relation to behavior, up to a maximum of **[4]** should be awarded.

If a candidate outlines more than one technique, credit should be given only to the first technique.

Cognitive approach to understanding behaviour

2. Describe **one** model of thinking and/or decision making, with reference to **one** relevant study. **[9]**

Refer to the paper 1 section A markbands when awarding marks.

The command term “describe” requires candidates to give a detailed account of one model of thinking and/or decision making with reference to one relevant study.

Models of thinking and decision making could include but are not limited to:

- dual-processing model explaining two systems of thinking, system 1 and system 2
- theory of reasoned action and theory of planned behaviour.

Relevant studies could include but are not limited to:

- Alter and Oppenheimer’s (2007) study on legibility of font and thinking
- Tversky and Kahneman’s (1974) studies on judgement under uncertainty
- Albarracin et al.’s (2001) meta-analysis of theory of planned behaviour as a model of condom use
- Strack and Mussweiler (1997); Englich and Mussweiler (2001) on anchoring bias and decision-making.

If a candidate describes one model of thinking and/or decision making without reference to a relevant study, up to a maximum of **[5]** should be awarded.

If a candidate describes a relevant study without describing one model of thinking and/or decision making, up to a maximum of **[4]** should be awarded.

If a candidate describes more than one model of thinking and/or decision making, credit should be given only to the first one.

Sociocultural approach to understanding behaviour

3. Explain **one** effect of enculturation on human cognition and/or behaviour, with reference to **one** relevant study. **[9]**

Refer to the paper 1 section A markbands when awarding marks.

The command term “explain” requires candidates to give a detailed account, including reasons, for how enculturation affects cognition and/or behaviour, with reference to one relevant study.

Relevant effects of enculturation may include, but are not limited to:

- Effects on parenting behaviours: Fagot *et al.* (1974); Barry (1959)
- Effects on memory: Demorest *et al.* (2008) on musical memory; Martin and Halvorson (1983) on reconstructive memory; Kearins (1981) on memory strategies among indigenous Australians
- Effects on conformity: Berry and Katz (1967)
- Effects on impulsivity: Lamm *et al.*’s (2017) marshmallow study of self-control in German versus Cameroonian children; Chen *et al.*’s (2005) study of online shopping behaviour

If a candidate explains one effect of enculturation on human cognition and/or behavior without reference to a relevant study, up to a maximum of **[5]** should be awarded.

If a candidate describes a relevant study without explaining an effect of enculturation on human cognition and/or behavior, up to a maximum of **[4]** should be awarded.

If a candidate explains more than one effect of enculturation on human cognition and/or behavior, credit should be given only to the first one.

Section B assessment criteria

A — Focus on the question

To understand the requirements of the question students must identify the problem or issue being raised by the question. Students may simply identify the problem by restating the question or breaking down the question. Students who go beyond this by **explaining** the problem are showing that they understand the issues or problems.

| Marks | Level descriptor |
|-------|---|
| 0 | Does not reach the standard described by the descriptors below. |
| 1 | Identifies the problem/issue raised in the question. |
| 2 | Explains the problem/issue raised in the question. |

B — Knowledge and understanding

This criterion rewards students for demonstrating their knowledge and understanding of specific areas of psychology. It is important to credit **relevant** knowledge and understanding that is **targeted** at addressing the question and explained in sufficient detail.

| Marks | Level descriptor |
|-------|--|
| 0 | Does not reach the standard described by the descriptors below. |
| 1–2 | The response demonstrates limited relevant knowledge and understanding. Psychological terminology is used but with errors that hamper understanding. |
| 3–4 | The response demonstrates relevant knowledge and understanding but lacks detail. Psychological terminology is used but with errors that do not hamper understanding. |
| 5–6 | The response demonstrates relevant, detailed knowledge and understanding. Psychological terminology is used appropriately |

C — Use of research to support answer

Psychology is evidence based so it is expected that students will use their knowledge of research to support their argument. There is no prescription as to which or how many pieces of research are appropriate for their response. As such it becomes important that the research selected is **relevant** and useful in **supporting** the response. One piece of research that makes the points relevant to the answer is better than several pieces that repeat the same point over and over.

| Marks | Level descriptor |
|-------|--|
| 0 | Does not reach the standard described by the descriptors below. |
| 1–2 | Limited relevant psychological research is used in the response. Research selected serves to repeat points already made. |
| 3–4 | Relevant psychological research is used in support of the response, and is partly explained. Research selected partially develops the argument. |
| 5–6 | Relevant psychological research is used in support of the response and is thoroughly explained. Research selected is effectively used to develop the argument. |

D — Critical thinking

This criterion credits students who demonstrate an inquiring and reflective attitude to their understanding of psychology. There are a number of areas where students may demonstrate critical thinking about the knowledge and understanding used in their responses and the research used to support that knowledge and understanding.

The areas of critical thinking are:

- research design and methodologies
- triangulation
- assumptions and biases
- contradictory evidence or alternative theories or explanations
- areas of uncertainty.

These areas are not hierarchical and not all areas will be relevant in a response. In addition, students could demonstrate a very limited critique of methodologies, for example, and a well-developed evaluation of areas of uncertainty in the same response. As a result, a holistic judgement of their achievement in this criterion should be made when awarding marks.

| Marks | Level descriptor |
|-------|---|
| 0 | Does not reach the standard described by the descriptors below. |
| 1–2 | There is limited critical thinking and the response is mainly descriptive. Evaluation or discussion, if present, is superficial. |
| 3–4 | The response contains critical thinking, but lacks development. Evaluation or discussion of most relevant areas is attempted but is not developed. |
| 5–6 | The response consistently demonstrates well developed critical thinking. Evaluation and/or discussion of relevant areas is consistently well developed. |

E — Clarity and organisation

This criterion credits students for presenting their response in a clear and organized manner. A good response would require no re-reading to understand the points made or the train of thought underpinning the argument.

| Marks | Level descriptor |
|-------|---|
| 0 | Does not reach the standard described by the descriptors below. |
| 1 | The answer demonstrates some organization and clarity, but this is not sustained throughout the response. |
| 2 | The answer demonstrates organization and clarity throughout the response. |

Section B

4. Discuss **one or more** genetic similarities for **one or more** behaviours.

[22]

Refer to the paper 1 section B assessment criteria when awarding marks.

The command term “discuss” requires candidates to offer a considered and balanced review of one or more genetic similarities (twins, siblings, parents, adopted children) for one or more behaviours.

Relevant studies may include, but are not limited to:

- Skre et al.’s (1993) twin study investigating genetic influences on anxiety disorders
- Holland et al.’s (1988) twin study investigating genetic influences on anorexia
- Kendler et al.’s (2006) twin study investigating genetic influences on depression
- Bouchard et al.’s (1990) twin study into genetic influences on intelligence
- True et al.’s (1993) twin study investigating genetic influences on PTSD symptoms among U.S. Vietnam veterans
- Weissman et al.’s (2005) kinship (parental) study of MDD
- Yehuda et al.’s (2000, 1998) kinship (parental) studies investigating symptoms of PTSD among adult children of Holocaust survivors.
- McGuffin et al.’s (2006) twin study investigating genetic influence on depression
- Scarr and Weinberg’s (1983) adoption study on intelligence.

Discussion points may include, but are not limited to:

- examining the underlying assumptions
- the validity of evidence in support of the explanation
- methodological and ethical considerations in the research into genetic similarities and behaviour
- the difficulties of carrying out empirical research
- the role of culture and/or environment on behaviour
- limitations of a reductionist argument.
- supporting and/or contradictory evidence

Candidates may discuss one genetic similarity in order to demonstrate depth of knowledge, or may discuss a larger number of genetic similarities in order to demonstrate breadth of knowledge. Both approaches are equally acceptable.

Candidates may discuss one behaviour in order to demonstrate depth of knowledge, or may discuss a larger number of behaviours in order to demonstrate breadth of knowledge. Both approaches are equally acceptable.

Candidates are not required to state exact concordance rates in order to be awarded full marks.

5. Discuss the influence (positive **and/or** negative) of technologies on cognitive processes. **[22]**

Refer to the paper 1 section B assessment criteria when awarding marks.

The command term “discuss” requires candidates to offer a considered review of the positive and/or negative influence of technologies on cognitive processes.

Candidates may discuss the influence of technologies on cognitive processes (such as memory, thinking and decision-making, perception, attention and/or language) or on cognitive processes in general.

Relevant studies may include, but are not limited to:

- Mueller and Oppenheimer’s (2014) study on the influence of laptops on learning
- Sparrow et al.’s (2011) study on the google effect and memory
- Di Giacomo et al.’s (2017) study on positive influence of learning in digital environments
- MacEwan’s (2006) study on positive and negative influences of internet use on cognitive development
- Kirschner and Karpinski’s (2010) study on Facebook use and academic performance
- Rosser et al.’s (2007) study on the positive influence of simulations/videogames on cognitive processes involved in surgery eg reaction time, spatial visualization, mental rotation.
- Sanchez’s (2012) study on the influence of videogames on visuospatial learning.
- Bavelier et al. (2011); Small et al. (2011) on decision-making
- Rosen, Carrier and Cheever’s (2013) study on media multi-tasking when studying

Discussion points may include, but are not limited to:

- methodological and ethical considerations
- how the findings of research have been interpreted and applied
- implications of the findings
- areas of uncertainty
- supporting and/or contradictory evidence
- cultural and/or gender considerations
- alternative explanations/findings.

6. Evaluate **one or more** research methods used to study the influence of globalization on behaviour.

[22]

Refer to the paper 1 section B assessment criteria when awarding marks.

The command term "evaluate" requires candidates to make an appraisal by weighing the strengths and limitations of one or more research methods used to study the influence of globalization on behaviour.

Candidates may evaluate one or more research methods, such as but not limited to:

- Surveys
- Experiments
- Case studies
- Correlational studies.

Relevant research may include, but is not limited to:

- Norasakkunkit and Uchida (2014); Becker et al.'s (2002) research on the influence of globalization on mental health
- Adams' (2003) research on cultural values in the USA and Canada converging over time
- Buchan et al. (2009) on globalization and cooperation
- Gupta's (2011) research on the influence of globalization on consumer behaviour
- Jensen, Arnett and McKenzie's (2011) research on globalization and cultural identity,
- Ogiwara and Uchida's (2014) research on the influence of globalization on subjective well-being
- Novotny and Polonsky's (2011) research on the influence of globalization on attitudes towards minority groups.

Evaluation of research methods may include, but is not limited to:

- why the method(s) was/were selected and the appropriateness of the method(s) including strengths and weaknesses
- possible theoretical assumptions and/or biases in relation to the chosen method
- the issues of validity and reliability
- the generalizability of findings
- the use of alternative/additional methods (triangulation).

Candidates may evaluate one research method to demonstrate depth of knowledge or may evaluate more than one research method to demonstrate breadth of knowledge. Both approaches are equally acceptable.
