Pearson

International Advanced Level Psychology

Component Guide Unit 2 WPS02

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International Advanced Level Psychology

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Contents

Introduction

This Pearson Edexcel International Advanced Level in Psychology is part of a suite of International Advanced Level qualifications offered by Pearson for international students. The specification has been developed in consultation with the teaching community, higher education, learned societies and subject associations.

This guide is designed to help you get to grips with content and assessment, and to help you understand what these mean for you and your candidates.

Content and Assessment overview

Candidates should know, understand, apply, critically analyse and evaluate the specification content that is composed of nine topics. There are opportunities for candidates to develop mathematical skills throughout the content and they are required to apply these skills to relevant psychological contexts.

The Pearson Edexcel International Advanced Level Psychology qualification is a modular programme with four examination components. The International Advanced Subsidiary (XPS01) consists of Unit 1 (WPS01) and Unit 2 (WPS02). The International Advanced Level consists of Unit 1 (WPS01), Unit 2 (WPS02), Unit 3 (WPS03) and Unit 4 (WPS04).

Candidates will be assessed through four examination papers which focus on specific topics in the qualification.

Paper 1 (WPS01) will assess content from Topics A and B

Paper 2 (WPS02) will assess content from Topics C and D

Paper 3 (WPS03) will assess content from Topics E, F and G

Paper 4 (WPS04) will assess content from Topics H and I.

Candidates may be required to respond to stimulus material using psychological concepts, theories and research from across topic areas. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity and subjectivity in their evaluation of studies and theories. Candidates should be able to define any terms given in the specification.

Examinations will be available for all components in January and June of each year. Examination entry details and examination availability are in the International Information Manual, which can be found here.

Assessment objectives are weighted for AS level and A level examinations in the following percentages.

		% in IAS	% in IAL
AO1	Demonstrate knowledge and understanding of scientific ideas, processes, techniques and procedures.	35–40	30–35
AO2	Apply knowledge and understanding of scientific ideas, processes, techniques and procedures: • in a theoretical context • in a practical context • when handling qualitative data • when handling quantitative data.	30–35	30–35
AO3	Analyse, interpret and evaluate scientific information, ideas and evidence, including in relation to issues, to: • make judgements and reach conclusions • develop and refine practical design and procedures.	30–35	35–40

The assessment objectives can be assessed in the written examinations in a combination of ways, this could be an AO in isolation or more than one AO combined within a question. Centres are referred to prior examinations that have been published and the SAMs materials for ideas to guide their planning and delivery.

All these materials are available on the IAL Psychology page here.

Centres are also referred to the **taxonomy** (command words) found in Appendix 9 of the specification. The command words in this taxonomy will be used consistently by Pearson in its assessments to ensure candidates are rewarded for demonstrating the necessary skills. Careful consideration has been given to this taxonomy to ensure that Assessment Objectives are targeted consistently across questions. Centres should note that a **single command word** will be used per item; dual injunctions, for example 'describe and evaluate', will not be used.

The **levels-based mark bands** encompass 4 different mark tariffs of question: 8 marks, 12 marks, 16 marks, and 20 marks. Candidates are assessed using the levels in the mark bands. The mark scheme content for these questions is indicative of what could be included, however candidates will be credited for any other reasonable marking points.

Discuss questions do not require any conclusions to be made, so are applicable for **AO1** and **AO2** questions.

Evaluate, Assess, and To what extent questions require judgements/conclusions to be made so applicable for **AO1** and **AO3** questions**.** Where **AO2** is also required, the question will have a signpost to the scenario so that is clear to candidates that they need to make links to the scenario in their answer.

The extended-open response questions are the only questions with explicit taxonomy rules. Further exemplification of these can be found in the levels-based mark bands document available on the qualification website.

Biological psychology

Specification requirements

Candidates must show an understanding that biological psychology is about the mechanisms within our body and how they affect our behaviour, focusing on aggression and bodily rhythms. Candidates should be aware of the structure and functioning of brain regions, focusing on aggression. Candidates should know the role of internal pacemakers and external zeitgebers in the regulation of the circadian sleep-wake cycle, research into the circadian sleep-wake cycle, and the role of infradian rhythms - including the menstrual cycle and seasonal affective disorder. Candidates should be able to define any terms given in the specification and associated with the core content being delivered.

Candidates may be required to respond to stimulus material, such as scenarios drawing from biological psychology or related research, and may use psychological concepts, theories and/or research within biological psychology in their responses.

Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of content, for example, studies, theories, treatments or their practical investigation. This list is not exhaustive.

Content

The structure and function of brain regions, with a focus on aggression, are covered in section 3.1. In 3.1.1, candidates are expected to understand the role of the **central nervous system** and **neurotransmitters** in human behaviour, including aggression as well as other behaviours. This should encompass the structure and role of neurons, the function of neurotransmitters and the process of synaptic transmission. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation.

The **structure of the brain** in 3.1.2 should be addressed by looking at different areas of the brain, including the **pre-frontal cortex** and **limbic system.** Candidates should be able to explain how different areas of the brain explain **aggression** as a human behaviour. This could be achieved through focusing on specific areas with the pre-frontal cortex and the limbic system, for example, the amygdala, as well as focusing on the different areas of the brain in general. Candidates also need to explain how **brain functioning** affects aggression. It might be beneficial to use **Raine et al (1997)** to support this area from the classic study (3.3.1) Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of the structure of the brain. This could be partially met using **scanning techniques** (3.2.5)

Aggression is also the focus for section 3.1.3: **the role of hormones and genes in aggression.** Candidates should be able to explain how specific hormones affect aggression in humans, such as testosterone and cortisol. Candidates also need to explain the role of genes in aggression. This can be delivered with the inclusion of the contemporary study, **Brendgen et al (2005)** from section 3.3.2 and **McDermott (2008)**, section 3.3.3, if that is the chosen contemporary study. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of the role of hormones and genes in aggression. The use of **twin studies** from section 3.2.6 could be used as part of the evaluation.

Body rhythms are covered in 3.1.4, 3.1.5 and 3.1.6. 3.1.4 focuses on the role of **internal pacemakers** and **external zeitgebers,** with an emphasis on the **circadian sleep-wake cycle**. Candidates should know examples of both internal pacemakers and external zeitgebers and be able to relate both to the sleep-wake cycle, explaining the sleep-wake cycle as well as variations within it. This can be combined with 3.1.6: **research into the circadian sleep-wake cycle**. The research can have been conducted on both human and non-human animals and should be from a range of research. If the chosen contemporary study is **Hoelfelmann et al** (2006) then this could be introduced here as an example of research into the sleep wake cycle.

Centres can use research using different methods to support the research methods section 3.2. Candidates may be asked to consider issues of validity, reliability,

credibility, generalisability, objectivity, and subjectivity in their evaluation of the bodily rhythms.

Section 3.1.5 covers **infradian rhythms**. Candidates should be able to define infradian rhythms as well as relate how they affect human behaviour, specifically the **menstrual cycle** and **seasonal affective disorder**. This can be combined with 3.1.6: **research into infradian rhythms.** The research can have been conducted on both human and non-human animals, but some of it needs to relate specifically to the menstrual cycle and seasonal affective disorder so this would need to be on human participants. Candidates also need to explain at least two therapies for seasonal affective disorder, one of which must be light therapy. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of the infradian rhythms.

Research methods

This topic can assess any **methods** from Unit 1, where relevant to the written examination content of biological psychology, as well as List B from Topic B (3.2.4) with the focus on **Spearman Rank test**. Any mathematical skill from List B can be tested as appropriate to the examination stimulus and content. Centres are referred to the mathematical skills in the specification (Appendix 7; pages 66-67) for further guidance. Centres could aid candidates' understanding of the Spearman Rank Test by guiding them through a worked example. In addition, specific to a biological psychology context, is the use of the **correlational research method,** including the **types of correlation** (3.2.2). Candidates could use an interactive programme or images of correlation and guestimate what the correlation is to help understand the types of correlation. Candidates should be able to explain **issues surrounding the use of correlations,** including the issues of cause and effect and other variables. Centres may wish to give the candidates examples of correlations from real-life, where there is obviously no cause and effect, to support the candidates understanding of this issue.

Scanning techniques are covered in 3.2.5 and should include **CAT** scans, **PET** scans and **fMRI** scans. As well as an understanding of how they work in general, candidates also need to understand how they can be used to investigate human behaviour, with the focus on aggression. Candidates' understanding could be helped using examples from the internet of brain scans being carried out, or of pictures from the different types of scan showing brain activity so the candidates can see how areas of the brain are depicted in scans. **Raine et al (1997)** could be used here as an example of a PET scan to consolidate the candidates' understanding of the technique.

Candidates also need to be able to explain **twin studies,** with the focus being on the investigation of genetic relatedness. Candidates need to be able to explain twin studies as a general research method, as well as how twin studies have been used in the study of aggression. **Brendgen et al (2006)** (3.3.2) could be used here as an example of a twin study to consolidate the candidates' understanding of the technique.

For all the research methods mentioned above, candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation.

Candidates may be required to respond to stimulus material that draws on research methodology in the context of biological psychology. This may include being asked to make design decisions or create a hypothetical study. The candidates' understanding of the different research methods, and the issues involved with them, may be enhanced through the candidates having to design hypothetical studies and critiquing each other's within the classroom.

Studies

Classic study

Raine et al. (1997) Brain abnormalities in murderers indicated by positron emission tomography.

Contemporary study

Brendgen et al. (2005) Examining genetic and environmental effects on social aggression: A study of 6-year-old twins.

The classic study (3.3.1) of **Raine et al. (1997)** and the contemporary study (3.3.2) of **Brendgen et al. (2005)** have been summarised in the Summary of Studies teacher resource for WPS02. Both studies are compulsory and can be assessed in the written examination.

One contemporary study from the following two choices:

McDermott (2008) Monoamine oxidase A gene (MAOA) predicts behavioural aggression following provocation.

Hoefelmann et al. (2006) Behaviors associated to sleep among high school learners: cross-sectional and prospective analysis.

Centres are also required to select one contemporary study from either **McDermott (2008)** or **Hoelfelmann et al. (2006).** These have been summarised in the Summary of Studies teacher resource for WPS02. Candidates can be assessed on their chosen study in the written examination. They may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of studies.

It is recommended that, wherever possible, centres combine the use of the Summary of Studies resource with the original study. However, where studies are not freely available or easily accessible, the summary resource is designed to help provide key starting points to enable teachers to deliver the content.

Practical investigation

Within their studies of biological psychology, candidates should conduct one **practical research** exercise to gather data relevant to topics covered in biological psychology. This practical research exercise must adhere to ethical principles in both content and intention. The practical investigation for this topic is a **correlational study**. Within their correlational study, candidates should make design decisions including operationalised co-variables, ethical considerations, creation of a hypothesis and controls. Candidates should collect and present their data in terms of **descriptive statistics** and **Spearman's Rho,** as well as to explain what their data shows. Candidates should be able to write up their procedure, results and discussion, with the strengths and weaknesses of their correlation being part of their discussion.

Candidates can be assessed on any aspect of their practical investigation using a correlation research method in the written examination, for example, their results or their use of a correlational methodology for this particular aim. They may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation. They may also be required to suggest improvements to selected components of their practical, for example, improvements to their method of sampling or their procedure.

Planning

Candidates can carry out a correlation on any topic that is focused on either aggression or body rhythms. Within the correlational research method, candidates may want to use another research method to gather their data, such as a questionnaire.

Carrying out the practical

Consideration should be given to ethical guidelines when designing and conducting the investigation and should adhere to the British Psychological Society (BPS) Code of Conduct and Ethics (2009).

Students may be assessed on their practical investigation in written examinations; therefore, they need to demonstrate an understanding of the decisions made when designing and conducting the investigation.

Analysis

Students will need to undertake an analysis of the data obtained within the investigation.

Drawing conclusions

There is an expectation that students will form inferences from their investigation which ultimately answers the research question. Communication of such findings is essential if candidates are asked about their practical investigation in the written examination.

Students will benefit from evaluating their practical investigation - especially when drawing conclusions.

Resources and references

A range of web-based resource links can be found in the 'Resource Mapping' document, available on the IAL Psychology Teaching and learning webpage. In addition, the scheme of work and Getting Started Guide provide additional guidance. There is also a new textbook available: Pearson Edexcel International AS-level Psychology Student book: ISBN 978-1292736112.

A **Summary of Studies** booklet is available for each unit of the Pearson International Advance Level Psychology qualification, which exemplifies all the classic and contemporary studies. This should be used in conjunction with the original source.

Classic study

Raine et al. (1997) Brain abnormalities in murderers indicated by positron emission tomography.
https://www.psychologywizard.net/uploads/2/6/6/4/26640833/raine_et_al._1997_os.pdf

Contemporary study

Brendgen et al (2005) Examining genetic and environmental effects on social aggression: A study of 6-year-old twins.
https://www.maccura.ca/download%20docs/Papers%20for%20Site/Aggression/Brendgen%20et%20al.,%202005.pdf

One contemporary study from the following two choices.

McDermott et al. (2008) Monoamine oxidase A gene (MAOA) predicts behavioural aggression following provocation.
https://www.pnas.org/doi/full/10.1073/pnas.0808376106

Hoelfelmann et al. (2006) Behaviors associated to sleep among high school students: cross-sectional and prospective analysis.
http://www.scielo.br/pdf/rbcdh/v16s1/1980-0037-rbcdh-16-s1-00068.pdf

Links for teaching support

Content and videos which can be adapted for your purpose.
https://www.psychologywizard.net/biological.html

Teaching ideas and worksheets which can be adapted for your purpose.
http://www.psychlotron.org.uk/

Relevant information about the brain and nervous system.
https://allpsych.com/biopsychology/

Exemplar responses to the sample assessment materials for each examination unit can also be found on the IAL Psychology teaching and learning web page. These demonstrate the assessment criteria and application of the mark schemes against the sample assessment materials.

Exam papers, mark schemes and examiner reports are available post results for examinations in all series (January, June) with effect from first examinations in the May/June 2016 series. These can be found in the exam materials section of the subject website here.

Learning theories and development

Specification requirements

Candidates must show an understanding that learning theories are about learning from the environment and the effects of conditioning, reinforcement, punishment, the role of reward and social learning.

Candidates must also show an understanding of learning theories as theories of development and psychodynamic ideas and concepts as different explanations for development, as well as focusing on individual differences. Candidates should be aware of classical and operant conditioning, social learning theory and a psychodynamic approach to personality development (either Freud's theory of personality development or the object relations school of thought). Candidates should know about systematic desensitisation and psychoanalysis as treatments/therapies. Candidates should be able to define any terms given in the specification and associated with the core content being delivered.

Candidates may be required to respond to stimulus material, such as scenarios drawing on learning theories and development or research related to these topics. In doing so, they may apply psychological concepts, theories and/or research from within learning theories and development.

Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of content, for example, studies, theories, treatments or their practical investigation. This list is not exhaustive.

Content

Three theories of learning are covered in the content: **classical conditioning** (4.1.1), **operant conditioning** (4.1.2) and **social learning theory** (4.1.3). Within classical conditioning, candidates are expected to know the terms unconditioned stimulus, unconditioned response, conditioned stimulus, neutral stimulus and conditioned response. Candidates also need to be able to explain extinction, spontaneous recovery and stimulus generalisation. These could be taught through the use of examples from the real world, possibly through phobias as this will then relate to **systematic desensitisation** (4.1.5). It could also be explained through the use of studies such as **Watson and Rayner** (1920) (4.3.1), or Pavlov's studies, to enable candidates to understand where classical conditioning originated. Candidates also need to know terms in operant conditioning including primary, secondary, positive and negative reinforcement, as well as positive and negative punishment and schedules of reinforcement. The research by Skinner (1948) 'Superstition in the Pigeon' and case studies could be used where candidates must identify the different types of reinforcement and punishment to enable them to gain an understanding of these terms and how they differ. In social learning theory, candidates need to understand the main features of the process including observation, imitation, modelling, vicarious reinforcement attention, retention, motivation and reproduction. The use of case studies, where candidates have to explain how a behaviour could be acquired through social learning theory, will aid understanding. A simplified version of the contemporary studies by **Prot (2014)** (4.3.3) or **Bastian et al. (2013)** (4.3.4) could be used here to introduce the candidates to the chosen contemporary study, as well as help with the understanding of social learning theory. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of learning theories.

Candidates are also expected to study a **psychodynamic approach to personality development** (4.1.4), including either Freud's theory of personality development or the object relations school of thought. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of the psychodynamic approach studied.

Following on from their understanding of the different theories, candidates need to be able to explain therapies and treatments. The therapies/treatment they need to focus on are **systematic desensitisation** (4.1.5) and **psychoanalysis** (4.1.6). Candidates need to understand the process of the two treatments, linking systematic desensitisation to classical conditioning. When studying psychoanalysis, candidates need to understand how it uses free association and dream analysis as well as the processes of transference and counter-transference. Candidates also need to understand how the object relations school of thought works as a therapy/treatment. Centres may find it helpful to teach the therapies/treatments after the relevant theories to enable

candidates to gain a deeper understanding of the theories and the how they link to the processes involved within the therapy/treatment. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of therapies/treatments.

Research methods

This topic can assess any **methods** from Unit 1 where relevant to the written examination content of learning theories and development, as well as List A from Topic A (4.2.5) and List B from Topic B (4.2.7) with the focus on the **chi-squared test**. Any mathematical skill from List A and List B can be tested, as appropriate to the examination stimulus and content. Centres are referred to the mathematical skills in the IAL Psychology specification (*Appendix 6: Mathematical skills and Appendix 7: Formulae and statistical tables*) for further guidance.

Centres could aid candidates' understanding of the chi-squared test by guiding them through a worked example. In addition, specific to learning theories and development context, is the use of **observations**. This should include how data are gathered during an observation. **Qualitative data** needs to be covered as does **quantitative data.** The use of qualitative data can include a recap of points learnt in social psychology within the methods section (1.2.8) and within the practical section (1.4.1), but they need to be made relevant to observations. The use of quantitative data needs to include the use of tallying, event and time sampling in relation to observations. Candidates also need to know the different types of observations (4.2.2) including participant and non-participant observations, structured and naturalistic, and overt and covert observations.

Candidates need to study the use of **content analysis** (4.2.3) as a research method. This will have similar features to **thematic analysis** (1.2.8) from the social approach and could be taught with analysis of qualitative data using thematic analysis (4.2.6) within the methods for learning theories and development. Centres must ensure that candidates understand the use of content analysis and thematic analysis within the learning theories and development topic. To help candidates understanding of content analysis, centres could use a newspaper article or television programme on which candidates could to carry out their own content analysis and thematic analysis on the data gained.

Freud's use of the case study (4.2.4) requires candidates to know general points about case studies, but also how Freud specifically used the case study as a research method and the unique methods he used to gather his data. Explicit reference to Freuds theory of personality development is not required. This will complement the use of **free association** and **dream analysis** (4.1.6) within therapies/treatments.

Candidates also need to study **animal research and ethics** (4.2.8), with the focus being on the use of animals in laboratory experiments. This will expand on candidates' knowledge of laboratory experiments from cognitive psychology (2.2). Candidates need to ensure that they are focused on the use of animals rather than laboratory experiments in general. Candidates should consider how results may relate to humans and the ethical issues relating specifically to the use of animals in

research. The specification includes the **Scientific Procedures Act** (1986) and **Home Office Regulations**, so candidates may benefit from a detailed summary of both. Knowledge can be embedded through the use of scenarios involving the use of animals in laboratory experiments, where candidates have to explain what guidelines have or have not been met, making reference to specifics from both documents.

For all the research methods mentioned above, candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation.

Candidates may be required to respond to stimulus material that draws on research methodology in the context of learning theories and development. This may include being asked to make design decisions or create a hypothetical study. The candidates' understanding of the different research methods and the issues involved with them may be enhanced through the candidates having to design hypothetical studies and critiquing each other's within the classroom.

Studies

Classic study

Watson and Rayner (1920) Little Albert: Conditioned emotional reactions.

Contemporary study

Capafóns et al. (1998) Systematic desensitisation in the treatment of the fear of flying.

The classic study (4.3.1) of **Watson and Rayner (1920)** and the contemporary study (4.3.2) of **Capafons et al. (1998)** have been summarised in the Summary of Studies teacher resource for WPS02. Both studies are compulsory and can be assessed in the written examination.

One contemporary study from the following two choices:

Prot (2014) Long-Term Relations Among Prosocial-Media Use, Empathy, and Prosocial Behavior.

Bastian et al. (2011) Cyber-dehumanization: Violent video game play diminishes our humanity.

Centres are also required to select one contemporary study from either **Prot (2014)** or **Bastian et al. (2011).** These have been summarised in the Summary of Studies teacher resource for WPS02. Candidates can be assessed on their chosen study in the written examination. They may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of studies.

It is recommended that, wherever possible, centres combine the use of the Summary of Studies resource with the original study. However, where studies are not freely available or easily accessible, the summary resource is designed to help provide key starting points to enable teachers to deliver the content.

Practical investigation

Within their studies of learning theories and development, candidates should conduct one **practical research** exercise to gather data relevant to topics covered in learning theories and development. This practical research exercise must adhere to ethical principles in both content and intention. The practical investigation for this topic is an **observation** that collects both quantitative **and** qualitative data, or **two** observations one that collect quantitative data and one that collects qualitative data. Within their observation/s candidates should make design decisions the use of behavioural categories, coding sheets and tallying, control hypothesis construction, ethics and observer bias. Candidates should collect and present their data in terms of **descriptive statistics** and **chi-square statistical test,** as well as be able to explain what their data shows. Candidate also need to conduct a **thematic analysis** on their qualitative data and be able to describe their findings. Candidates should be able to write up their procedure, results and discussion, with the strengths and weaknesses of their observation/s being part of their discussion as well as possible design improvements.

Candidates can be assessed on any aspect of their practical investigation using observation/s in the written examination, for example their results or their use of an observation for this particular aim. They may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation, they may also be required to suggest improvements to selected components of their practical, for example improvements to their method of sampling or their procedure.

Planning

Candidates can carry out an observation on any topic that is focused learning theories or development.

Carrying out the practical

Consideration should be given to ethical guidelines when designing and conducting the investigation, and should adhere to the British Psychological Society (BPS) Code of Conduct and Ethics (2009).

Students may be assessed on their practical investigation in written examinations, therefore they need to demonstrate an understanding of the decisions made when designing and conducting the investigation.

Analysis

Students will need to undertake an analysis of the data obtained within the investigation.

Drawing conclusions

There is an expectation that students will form inferences from their investigation which ultimately answers the research question. Communication of such findings is essential if candidates are asked about their practical investigation in the written examination.

Students will benefit from evaluating their practical investigation, especially when drawing conclusions.

Resources and references

A range of web-based resource links can be found in the 'Resource Mapping' document, available on the IAL Psychology Teaching and learning webpage. In addition, the scheme of work and Getting Started Guide provide additional guidance. There is also a new textbook available: Pearson Edexcel International AS-level Psychology Student book: ISBN 978-1292736112.

A **Summary of Studies** booklet is available for each unit of the Pearson International Advance Level Psychology qualification, which exemplifies all the classic and contemporary studies. This should be used in conjunction with the original source.

Classic study

Watson and Rayner (1920) Little Albert: Conditioned emotional reactions.
https://users.sussex.ac.uk/~grahamh/RM1web/Classic%20papers/Watson%20%20Rayner1920.pdf

Contemporary study

Capafons et al. (1998) Systematic desensitisation in the treatment of the fear of flying.
http://www.psychologyinspain.com/content/reprints/1998/2.pdf

One contemporary study from the following two choices:

Prot (2014) Long-Term Relations among Prosocial-Media Use, Empathy, and Prosocial behaviour.
https://www.researchgate.net/publication/259319998_Long_Term_Relations_Among_Prosocial-Media_Use_Empathy_and_Prosocial_Behavior

Bastian et al. (2011) Cyber-dehumanization: Violent video game play diminishes our humanity.
http://www2.psy.uq.edu.au/~uqbbast1/Bastian%20et%20al%20JESP%20in%20press.pdf

Links for teaching support

Teaching ideas and worksheets which can be adapted for your purpose.
http://www.psychlotron.org.uk/

Classical conditioning introduction including Watson and Rayner (1920) footage
http://www.youtube.com/watch?v=9hBfnXACsOI

Key features of behavioural learning theory
https://www.simplypsychology.org/behaviorism.html#:~:text=Behaviorism%20is%20a%20theory%20of%20learning%20that%20states,be%20studied%20in%20a%20systematic%20and%20observable%20manner

Exemplar responses to the sample assessment materials for each examination unit can also be found on the IAL Psychology teaching and learning web page. These demonstrate the assessment criteria and application of the mark schemes against the sample assessment materials.

Exam papers, mark schemes and examiner reports are available post results for examinations in all series (January, June) with effect from first examinations in the May/June 2016 series. These can be found in the exam materials section of the subject website here.

Quantitative skills guidance

Throughout the course of study, students will develop competence in **mathematical skills** (listed in Appendix 7; pages 69-71 of the specification). This provides exemplification of mathematical skills in the context of Psychology to guide centres in the delivery of these skills. However, assessment is not limited to the examples in the exemplification. There are opportunities for students to develop these skills throughout the content of the topics in this qualification, and candidates are required to apply the skills to relevant psychological contexts and stimulus material that may be presented in the written examination. As with any terminology in the specification, candidates should be able to define the key quantitative terms and explain the rationale for quantitative data choices, for example, why a particular test may be used. The formulae and critical values tables will be provided in the written examination booklet and candidates may use a calculator on all papers.

The specification content for the biological psychology **Topic C** and learning theories and development **Topic D** requires candidates to be able to draw from all quantitative skills covered throughout the qualification.

List A can be found initially in Topic A and includes:

- calculating measures of central tendency (mean, median, mode)
- data tables (frequency tables and summary tables)
- graphical presentation (bar chart, histogram)
- measures of dispersion (range and standard deviation)
- percentages, ratios, and fractions

List B can be initially found in Topic B and includes:

- Levels of measurement
- Wilcoxon non-parametric test of difference
- Spearman's test
- Chi-squared
- Probability and levels of significance ($p \leq .10$ $p \leq .05$ $p \leq .01$)
- Observed and critical values
- sense checking of data

- One- or two-tailed regarding inferential testing
- Type I and type II errors

Suggestions for practical use of the quantitative skills can be found in many of the practical investigations, along with the exemplification provided in the IAL Psychology specification.

Mapping the IAL Psychology to the GCE 2015 specification

This section is designed to provide you with an overview of where there is cross-over content between the International Advanced Subsidiary and International Advanced Level in Psychology (2015) and the GCE Advanced Subsidiary Level and Advanced Level (2015) qualifications.

This may enable centres to effectively cross-reference resources and teaching support materials between the two qualifications. Many are provided on the Pearson Edexcel psychology website, and there are several resources provided through external publishers that centres may find useful to cross-reference.

Topic	IAS/IAL Content	GCE 2015 Content
C: Biological psychology	3.1.1 The role of the central nervous system (CNS) and neurotransmitters in human behaviour, including the structure and role of the neuron, the function of neurotransmitters and synaptic transmission.	3.1.1 The role of the central nervous system (CNS) and neurotransmitters in human behaviour, including the structure and role of the neuron, the function of neurotransmitters and synaptic transmission.
	3.1.2 The structure of the brain, different brain areas including the pre-frontal cortex and limbic system and brain functioning as an explanation of aggression as a human behaviour.	3.1.3 The structure of the brain, different brain areas (e.g. pre-frontal cortex) and brain functioning as an explanation of aggression as a human behaviour.

	3.1.3 The role of, and research into, hormones and genes in aggression.	3.1.6 The role of hormones (e.g. testosterone) to explain human behaviour such as aggression.
	The use of the correlational research method in psychology including co-variables.	Correlational research. The use of the correlational research method in psychology including co-variables.
	3.2.2 Types of correlation: positive, negative and including the use of scatter diagrams.	Correlational research. Types of correlation: positive, negative and including the use of scatter diagrams.
	3.2.3 Issues surrounding the use of correlations in psychology; issues with cause and effect, other variables.	Correlational research. Issues surrounding the use of correlations in psychology; issues with cause and effect, other variables.
	3.2.4 List B from Topic B, focusing on Spearman Rank Test.	3.2.2 Analysis of correlational data. Analysis of, use of, and drawing conclusions from correlational studies, including scatter diagrams, using inferential statistical testing (use of Spearman's rho) and issues of statistical significance; levels of measurement; critical and observed values.
	3.2.5 Brain scanning techniques (CAT, PET, and fMRI). The use of brain scanning techniques to investigate human behaviour, including aggression.	3.2.3 Other biological research methods. Brain-scanning techniques (CAT, PET, and fMRI). The use of brain-scanning techniques to investigate human behaviour, e.g. aggression.

	3.3.1 Classic study Raine et al. (1997) Brain abnormalities in murderers indicated by positron emission tomography.	3.3.1 Classic study Raine et al. (1997) Brain abnormalities in murderers indicated by positron emission tomography.
	3.3.2 Brendgen et al. (2005) Examining genetic and environmental effects on social aggression: A study of 6-year-old-twins.	3.3.3 Brendgen et al. (2005) Examining genetic and environmental effects on social aggression: A study of 6-year-old-twins.
	3.4 Practical investigation. A correlational study to gather quantitative data and include descriptive statistics as analysis and a non-parametric test of relationships into aggression or body rhythms.	Practical investigation. Design and conduct a correlational study. Link their research to aggression or attitudes to drug use.
D: Learning theories and development	4.1.1 The main features of classical conditioning (Pavlovian), including unconditioned stimulus (UCS); unconditioned response (UCR); conditioned stimulus (CS); neutral stimulus (NS); conditioned response (CR); extinction, spontaneous recovery and stimulus generalisation.	4.1.1 The main features of classical conditioning, including unconditioned stimulus (UCS); unconditioned response (UCR); conditioned stimulus (CS); neutral stimulus (NS); conditioned response (CR); extinction, spontaneous recovery and stimulus generalisation.
	4.1.2 The main features of operant conditioning, including types of reinforcement (positive and negative) and punishment (positive and negative) properties of reinforcement (primary, secondary and schedules) including Skinner (1948) superstition in the pigeon.	The main feature of operant conditioning, including types of reinforcement (positive and negative). Properties of reinforcement, including primary and secondary reinforcement and schedules of reinforcement.

	4.1.3 The main features of social learning theory, including observation, imitation, modelling and vicarious reinforcement, attention, retention, motivation and reproduction.	The main features of social learning theory, including observation, imitation, modelling and vicarious reinforcement. Social learning 'stages' of attention, retention, reproduction and motivation (reinforcement).
	4.1.4 The psychodynamic approach to personality development, including either Freud's theory of personality development or the object relations school of thought.	3.1.5 Biological explanation of aggression as an alternative to Freud's psychodynamic explanation referring to different parts of the personality (id, ego, superego), and the importance of the unconscious and catharsis.
	4.1.5 Systematic desensitization.	4.1.11 Treatments for phobias based on theories if learning, including systematic desensitization and one other.
	The use of the observational research method in psychology, including the gathering of both qualitative and quantitative data (including tallying, event and time sampling).	Human research. The use of the observational research method in psychology, including the gathering of both qualitative and quantitative data (including tallying, event and time sampling).
	4.2.2 Types of observation: participant, non-participant, structured, naturalistic, overt and covert.	Human research. Types of observation: participant, non- participant, structured, naturalistic, overt and covert.
	4.2.3 Use of content analysis as a research method.	Human research. Use of content analysis as a research method.

	4.2.6 Analysis of qualitative data using thematic analysis.	1.2.6 Analysis of qualitative data using thematic analysis. 4.2.3Analysisw of data. Analysis of qualitative data using thematic analysis.
	4.2.7 List B from Topic B, focusing on the chi-squared test.	4.2.3 Analysis of data. With regard to inferential statistics: levels of measurement; reasons for choosing a chi- squared test; comparing observed and critical values to judge significance; the chi-squared test.
	4.2.8 Animal research and ethics. The use of animals in laboratory experiments where results can be related to humans. Ethical issues regarding the use of animals in laboratory experiments; including the Scientific Procedures Act (1986) and Home Office Regulations.	4.2.2 Animal research. The use of animals in laboratory experiments where results can be related to humans. Ethical issues regarding the use of animals in laboratory experiments; including the Scientific Procedures Act (1986) and Home Office Regulation.
	4.3.1 Watson and Rayner (1920) Little Albert: Conditioned emotional reactions.	4.3.1 Classic study. Watson and Rayner (1920) Little Albert: Conditioned emotional reactions.
	4.3.2 Capafons et al. (1998) Systematic desensitization in the treatment of the fear of flying.	4.3.4 Capafons et al. (1998) Systematic desensitization in the treatment of the fear of flying.
	4.3.4 Bastian et al. (2011) Cyber-dehumanization: Violent video game play diminishes our humanity.	4.3.3 Bastian et al. (2011) Cyber-dehumanization: Violent video game play diminishes our humanity.

	4.4.1 Two observations (one observation can be carried out if both qualitative and quantitative data are gathered in the same observation).	4.5.1 Two observations (one observation can be carried out if both qualitative and quantitative data are gathered in the same observation).