Pearson

International Advanced Level Psychology

Component Guide Unit 1

WPS01

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International Advanced Level Psychology

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Contents

Introduction

This Pearson Edexcel International Advanced Level in Psychology is designed for use in schools and colleges outside the United Kingdom. It is part of a suite of International Advanced Level qualifications offered by Pearson. 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 in this unit and to help you understand what this means for you and your students.

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 units. 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 are assessed through four examination papers that 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 IAS level and IAL 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 can refer to past question papers 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 G 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 knowledge and 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 IAL Psychology web page.

Social Psychology

Specification requirements

Candidates must show an understanding that social psychology is about aspects of human behaviour that involve the individual's relationship to other persons, groups and society, including cultural influences on behaviour. Candidates should understand that obedience and majority and minority are forms of social influence on people's behaviour. They must also understand the associated methodology, and classic and contemporary studies as listed in the specification. Candidates should be able to define any terms given in the specification and associated core content being delivered.

Candidates may be required to **respond to stimulus material**, for example scenarios drawing from social psychology or research into social psychology, and they may use psychological concepts, theories and/or research from within social psychology.

Candidates may be asked to **consider issues** of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of content, such as studies, theories, methods, or their practical investigation; this list is not exhaustive.

Content

Theories of obedience (1.1.1) includes agency theory and social power theory. For this, candidates should be able to explain obedience using the given theory, and would benefit from explaining why people may not obey. They should be able to show the strengths and weaknesses of the theory and support their points with research evidence where appropriate. **Agency theory** is supported through the studies conducted by Milgram, and centres may wish to deliver agency theory and Milgram's research (1.1.2) together. For **social power theory**, the work of French and Raven (discussing the five power bases) is a commonly used explanation. In addition, centres could use information from Weber for a supporting theoretical explanation and evidence, if they wish.

Research into obedience (1.1.2) includes Milgram's research into obedience includes his study at Yale University on participant obedience to authority, which is often compared to the variations. The three variation studies that are required include: rundown office block (Experiment 10), telephonic instructions (Experiment 7), and an ordinary man gives orders (Experiment 13), as they demonstrate situational factors that encourage dissent. (These three variations use variation 5 as a baseline procedure, where there is an implied heart condition of the confederate.) Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of this research.

Ethical considerations (1.2.9) could be delivered alongside the research of Milgram as candidates can draw on his work to exemplify the code of ethics and conduct (2009). At this point, centres may wish to deliver the contemporary study by **Burger (2009)** Replicating Milgram (1.3.2) as an example of how studies can be reproduced (to highlight reliability), can be made more ethical (to lead into a discussion of ethical considerations 1.2.9), and that obedience levels remain high in modern society. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of Burger (2009).

Factors affecting obedience and dissent and resistance to obedience (1.1.3) can follow from research into obedience as centres may wish to draw on the situational factors evidence in Milgram's research to discuss **situational** factors. Candidates should understand **individual differences** as factors affecting obedience and dissent, including personality traits such as Adorno's research on authoritarian personality, and internal/external locus of control. They should also consider whether gender differences affect obedience, as research often shows no difference despite a common assumption of higher obedience in females. Finally, candidates should understand differences in obedience by culture, where centres can draw on cross-cultural research. Conformity is when a person or people change their behaviour, rather than follow orders as explained in obedience. **Types and explanations of**

conformity (1.1.4) can be explained drawing upon a number of theories and research evidence that highlight the difference between majority and minority influence. **Majority influence** includes the key features of compliance, identification and internalisation. Zimbardo's prison study and the replication by Reicher and Haslam (2006) could be good starting points to highlight majority influence. Equally, Jenness's (1932) Bean Jar experiment shows informational majority influence and could form the basis of a class activity. Social impact theory (Latane, 1981) also provides an explanation of conformity that candidates can compare to compliance, identification and internalisation, and also use as an alternative explanation for obedience. Candidates should be able to apply the concepts to explain why a group may or may not be influenced by a minority or majority.

Asch's research into conformity (1.1.5) provides candidates with the supporting evidence and understanding of majority influence. Candidates should understand Asch's study from 1951 and his variation studies (1952, 1956) and how these demonstrate conformity (see resources section on page 22 for links). Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of Asch's research.

Minority influence (1.1.6) would need to be understood as an alternative explanation for conformity to majority influence, and the key differences should be highlighted. Key concepts such as informational and normative influences, belief conversion rather than mere compliance, social conflict or cognitive dissonance (e.g., Festinger), informational social influence and internalisation should be covered. Candidates should also be aware of supporting evidence, such as Nemeth and Moscovici. **Moscovici (1976)** refers to his theories and explanations of minority influence and candidates should be able to explain and evaluate his theory as an explanation and evaluate the concept of minority influence in terms of how well it does or does not explain change in group beliefs to minority belief. Centres may wish to deliver the classic study (1.3.1) **Moscovici et al. (1969)** at this point. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of Moscovici et al. (1969).

Section 1.1.7 covers the **factors affecting conformity** (majority influence) and **minority influence,** and candidates should understand the factors that make minority influence successful and unsuccessful. **Situational** factors, such as whether the minority is the in-group or out-group, the consistency of the minority's message (Hogg and Vaughn, 1995), and the flexibility versus rigidity of the minority, should be considered. **Individual differences**, such as personality and identification with the minority (by gender for example), can also affect conformity. In addition, candidates should understand differences in conformity by **culture**, where centres can draw on cross-cultural research such as individualistic versus collectivist cultures (Smith and Bond, 1993).

Research methods

The focus of methodology in Topic A is the use of self-reporting data, quantitative data, sample selection and sampling techniques. There is also an emphasis on ethical considerations. These points, including quantitative skills, may be assessed in the written examination across the paper. Centres should also note that the research methods and quantitative skills from Topic A and Topic B (Paper 1) may be assessed in the written examination for Unit 2.

Candidates should be able to explain the difference between **primary and secondary data** (1.2.2), and assess each type of data, for example why a researcher may wish to use primary rather than secondary data.

Candidates should be able to understand the practical issues and processes used when **designing and conducting** questionnaires and interviews (1.2.1). Candidates may benefit from understanding the purpose of standardised questions and pilot questionnaires. Candidates will have used questionnaires in the practical for social psychology, and centres could use this as a starting point and add additional examples, such as Cohrs et al. (2012), which is summarised in the UK GCE A Level textbook as a social psychology contemporary study. Understanding the use of **open and closed (including ranked scale) questions** is required (1.2.3), along with the rationale for selection of question types, such as quantitative and qualitative data. The use of self- report data should also be explored, along with the relative merits and drawbacks of this data-gathering method. Finally, the use of **structured, semi-structured and unstructured interviews** is a requirement (1.2.3), and candidates may benefit from being able to compare and contrast these to reinforce the difference between them, which would aid their evaluations. **Researcher effects** (1.2.1) on studies using questionnaires and interviews should be discussed, and it may be beneficial to draw on the concepts of social desirability and demand characteristics to exemplify the impact of researcher effects on studies. Candidates may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of the use of questionnaires and interviews.

It may be beneficial for centres to present the **analysis of qualitative data using thematic analysis** (1.2.8) at this point, as candidates could enhance their understanding and evaluations of the types of data gathered from questionnaires, interviews, and observations where appropriate.

The use of **alternative hypotheses** (1.2.4) requires candidates to be able to understand and know how to devise an alternative hypothesis. They should understand that this approach is used when a research method other than an experimental one is selected. Candidates should also be able to distinguish between a directional (one-tailed) and non-directional (two-tailed) hypothesis. They may be asked to write a hypothesis in the written examination.

The **sampling techniques** (1.2.5) that candidates should know are random, stratified, volunteer and opportunity sampling. Candidates should be able to explore the rationale behind sampling choices and the impact each technique may have on the research process. For example, a volunteer sample may not generate a representative participant group. This could be further exemplified with reference to a study that used this method, such as Milgram (1963), if appropriate.

Section 1.2.6 introduces **List A** as the first stage of quantitative skills in the qualification. The **analysis of quantitative data** 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, fractions. The decisions about, rationale for the use of, and interpretation of descriptive statistics (List A) (1.2.6) can be assessed throughout this topic area, these are exemplified in this guidance. A minimum of 10% of the examination will be targeted at assessing quantitative skills.

Being able to distinguish between a **normal and skewed distribution** (1.2.7), and the ability explain what this indicates for results gathered, enables candidates to better understand data analysis, particularly the use of measures of central tendency. For example, a normal distribution indicates that the mean is centralised, while left-skewed distributions have a mean that is to the left of the median, and right-skewed distributions have the mean to the right of the median. Candidates may benefit from plotting their practical investigation data as a practical exercise in distributions.

Candidates should be able to understand the **BPS Code of Ethics and Conduct (2009), including risk management** (1.2.9). They should fully understand the purpose of this and why it is an important consideration in psychological research. It would be beneficial for centres to encourage candidates to evaluate their own practical investigation, along with the classic and contemporary studies, drawing on ethical considerations. Equally, candidates should be aware that ethical issues reach beyond a single code of practice, and that there are wider considerations that must be accounted for when psychologists conduct research into social psychology, particularly with children (such as Sherif et al. 1953).

Studies

Classic study

Moscovici et al. (1969) Influence of a Consistent Minority on the Responses of a Majority in a Color Perception Task.

Contemporary study

Burger (2009) Replicating Milgram: Would people still obey today?

The classic study (1.3.1) of **Moscovici et al. (1969)**, along with the named contemporary study of (1.3.2) **Burger (2009)** have been summarised in the **Summary of Studies** teacher resource for WPS01. Both of these studies are compulsory and can be assessed in the written examination. They may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of studies.

One contemporary study from the following two choices:

Yi Huang et al. (2014) Conformity to the opinions of other people lasts for no more than 3 days.

Haun et al. (2014) Children Conform to the Behavior of Peers; Other Great Apes Stick With What They Know.

Centres are required to select **one** of the optional contemporary studies named on the specification. The two optional contemporary studies **Yi Huang et al. (2014)** (1.3.3) and **Haun et al. (2014)** (1.3.4) have been summarised in the **Summary of Studies** teacher resource for WPS01. In **Haun et al (2014),** centres should note that candidates must know Study One, as it is the only part of Haun's research that includes the children and non-human animals. While Study Two can be delivered as additional evidence, it is not required. 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 social psychology, candidates should conduct one **practical research** exercise to gather data relevant to topics covered in social psychology. This practical research exercise must adhere to ethical principles in both content and intention.

Suitable **examples** for this investigation include, but are not exclusive to:

- A questionnaire to determine if males perceive themselves as more obedient.
- A questionnaire into self-reported levels of conformity based on scenarios.
- A questionnaire to see if males or females perceive themselves to be more obedient.

In **conducting** the practical research exercise, candidates must:

- design and conduct a questionnaire to gather both qualitative and quantitative data to look for a difference in the data.
- consider questionnaire construction, sampling decisions and ethical issues.
- collect and present an analysis of quantitative data using measures of central tendency (mean, median, mode as appropriate, measures of dispersion, (including range and
- standard deviation as appropriate), table and graphical representations (summary table, frequency table, bar graph, histogram, as appropriate);
- collect and present an analysis of qualitative data using thematic analysis.
- consider strengths and weaknesses of the questionnaire.
- write up the procedure, results and discussion section of a report.

Candidates may benefit from presenting their investigation using the **conventions of published research** (9.1.15) to give them practical experience of this format of psychological research; abstract, introduction, aims and hypotheses, method, results, discussion and the process of peer review. This will aid them in their understanding of conventions of published psychological research in preparation for Paper 4, where they will be required to revisit this process in a synoptic manner.

Candidates can be assessed on any aspect of their practical investigation in the written examination, such as their results or their use of a questionnaire 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.

Practical investigation example

Obedience levels in males and females.

Planning

This is a very important part of the practical and it is where you consider such things as your design, sampling method, procedure, hypotheses, variables, apparatus/materials.

Write out the alternative hypothesis

> *For example: There will be a difference in the self-reported levels of obedience between males and females.*

Choose an appropriate sampling method

> Sampling must provide sufficient numbers of each group (at least 10 in most cases) and offer an appropriate approach to meeting the needs of the questionnaire. *For example, opportunity sampling may be suitable, but this choice needs to be justified. The justification should go beyond stating that this sampling method is quick and easy.*

Carrying out the practical

Design the questionnaire to:

- Include identification of the group to which each individual belongs.
- Provide standardised instructions at the beginning so that the participants know what is expected of them, e.g., to complete the questionnaire independently, without input from others.
- Include clear ethical considerations, such as explaining that the respondent has the right to withdraw at any time and that data is confidential.
- Include closed questions, such as statements using a Likert-type scale (strongly agree, agree, don't know, disagree, strongly disagree), e.g., to assess whether females' attitudes to superiority will be more autonomous than males' attitudes.
- Include open questions, such as 'What do you think about differences in gender and obedience? Give reasons for your answer.'

Gather data that allows for comments to be grouped into themes.

> Determine the method of data collection for your questionnaire, whether to post it, email it or in-person distribution – this may relate to your chosen sampling method.

Analysis of data

After collecting your results, you need to see if there is a difference in your two groups and analyse the data.

Analyse the quantitative data using the most appropriate measures of central tendency and measures of dispersion, e.g., scoring answers with the use of a frequency table and bar chart.

Analyse the qualitative data using thematic analysis:

> *For example, using qualitative data to group ideas into categories, such as female participants talking more about female autonomy than male participants, gives a theme: 'female focus on female autonomy'.*
>
> *For example, 'I believe that in the workplace females are more likely to be obedient. This is because men usually hold the highest positions in the workplace, so women have been used to following commands' gives the theme: 'men in higher positions at work, women obey' (theme - a stereotype here?).*
>
> *For example, one theme might suggest that women are more obedient, but that this is influenced by the environmental factors, indicating that this issue is not straightforward; therefore it is important to qualify the themes.*

Representing results and drawing conclusions

Represent the quantitative data using a bar graph and frequency table in some format. Also, use a table giving the measures of central tendency and dispersion.

Draw conclusions about the qualitative data gathered, *e.g., "Overall women do tend to assess themselves as more obedient than men. However, circumstances and the environment have a big impact on this."*

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 supporting 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

Moscovici et al. (1969) Influence of a Consistent Minority on the Responses of a Majority in a Color Perception Task.
https://www.simplypsychology.org/minority-influence.html

Contemporary study

Burger (2009) Replicating Milgram: Would people still obey today?
http://www.apa.org/pubs/journals/releases/amp-64-1-1.pdf

One contemporary study from the following two choices:

Yi Huang et al. (2014) Conformity to the opinions of other people lasts for no more than 3 days.
http://www.researchgate.net/publication/262577706_Conformity_to_the_Opinions_of_Other_People_Lasts_for_No_More_Than_3_Days

Haun et al. (2014) Children Conform to the Behavior of Peers; Other Great Apes Stick With What They Know.
https://local.psy.miami.edu/faculty/dmessinger/c_c/rsrcs/rdgs/emot/tomasello.Psychological%20Science-2014-Haun-2160-7.pdf

Research into obedience

Milgram (1974) "Obedience to Authority: An experimental view", Harper Perennial/ Harper & Row/Harper Collins, New York.
https://www.harpercollins.com/9780061765216/obedience-to-authority
https://www.simplypsychology.org/milgram.html

Research into conformity

Asch, S. E. (1951). Effects of group pressure upon the modification and distortion of judgment.
https://www.simplypsychology.org/asch-conformity.html

Asch, S. E. (1956). Studies of independence and conformity: I. A minority of one against a unanimous majority. Psychological monographs: General and applied, 70(9), 1-70.
https://psycnet.apa.org/record/2011-16966-001

Ethics

British Psychological Society code of ethics and conduct (2009)
https://www.bps.org.uk/guideline/code-ethics-and-conduct

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.

Cognitive Psychology

Specification requirements

Candidates must show an understanding that cognitive psychology is about the role of cognition/cognitive processes in human behaviour. Processes include perception, memory, selective attention, language and problem solving. The cognitive topic area draws on how information is processed in the brain. The focus of this topic is human memory, and candidates should be able to explain and evaluate the theories of memory given in the specification. 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 based on cognitive psychology or research into cognitive psychology. In doing so, they can use psychological concepts, theories and/or research from within cognitive psychology.

Candidates may be asked to **consider issues** of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation and assessment of content, such as studies, theories, methods or their practical investigation; this list is not exhaustive.

Content

The multi-store model of memory (2.1.1) proposed by (Atkinson and Shiffrin, 1968) exemplifies the underpinning assumptions of cognitive psychology that the human mind is an information processor, with a system of input-process-output. Candidates should understand the distinctions between the stores (sensory register, short-term memory and long-term memory) and ideas about how information entering our memory system is encoded in the stores and then stored.

The methods of retrieving information from each memory store should be explored, and candidates should understand the differences between capacity (how much) and duration (how long) in these memory stores. It may be helpful for them to use supporting evidence to illustrate these concepts, such as Miller (1956) for STM capacity, Peterson and Peterson (1959) for STM duration, and Bahrick et al. (1975) for LTM duration. Centres should encourage candidates to understand that there are alternative explanations of memory, such as the working memory model (Baddeley and Hitch, 1974) who explain short-term memory in more depth, and Tulving (1972) who explains long term memory in more detail.

Centres may wish to deliver the content of the **case of Henry Molaison (HM)** (2.2.13) and the contemporary study by **Schmolck et al. (2002)** (3.2.1) at this stage to give evidence for the multi-store model, and also make links to research methods.

The components of **working memory model** (2.1.2) proposed by Baddeley and Hitch, (1974) are needed in this section. Candidates should understand the role that each of these components have in memory: the central executive, phonological loop (including the articulatory and phonological store), visuo-spatial scratchpad/sketchpad, and the addition, by Baddeley, of the episodic buffer. Candidates should be able to evaluate the model, with strengths and weaknesses and, where appropriate, they may benefit from utilising supporting/refuting evidence, such as Lieberman (1980) who criticises the visuo-spatial scratchpad/sketchpad. The development of working memory can be discussed, and centres may find supporting evidence from Sebastián and Hernández-Gil (2012) useful to discuss this aspect of memory (this is summarised in UK GCE textbooks as an optional contemporary study). This may also be a point where centres can deliver **Darling et al. (2007)** (2.3.3) if they have selected this contemporary study from the optional choices.

Reconstructive memory (Bartlett, 1932) includes **schema theory** (2.1.3), and candidates should understand the principle that we fill in gaps and reconstruct memories with schema acting as a cognitive framework. Bartlett's explanations are key to this section, however, supporting evidence can be used from any of Loftus and Palmers studies into eye witness memory, or Steyvers and Hemmer (2012) study (this is summarised in UK GCE textbooks as an optional contemporary study). Centres may wish to deliver the classic study **Bartlett (1932)** (2.3.1) at this point to reinforce to candidates his theory and provide supporting evidence. This may also

be a point where centres can deliver **Sacchi et al. (2007)** (2.3.4) if they have selected this contemporary study from the optional choices.

Research methods

The use of **hypotheses** (2.2.3) requires candidates to be able to understand a null hypothesis, and experimental hypothesis. They should know the differences between these and how a null hypothesis is tested. Candidates should also be able to distinguish between a **directional** (one-tailed) and **non-directional** (two-tailed) hypothesis (2.2.4). They may be asked to write a hypothesis in the written examination, for which they must be able to fully **operationalise** the independent and dependent variables (2.2.6) in the hypothesis. Understanding the **independent and dependent variable** and operationalisation of these is developed further in 2.2.2 and centres may wish to combine this section with the design and use of **experiments** (2.2.1). Understanding of laboratory and field experiments are expected for this section, however candidates do not need to know naturalistic experiments as the specification does not require knowledge of this methodology. As with all sections in this topic, there is an expectation that experimental methodology can be evaluated by candidates.

It could be useful to discuss issues of **objectivity, reliability and validity** (2.2.9) at this point to aid candidates in understanding the strengths and weaknesses of the experimental method. At this stage, candidates would be able to compare the use of experiments with questionnaires and interviews from Topic A in order to understand how a choice of method can impact on the reliability and validity (internal, predictive and ecological) of a piece of research. Candidates may benefit from reviewing their classic and contemporary studies and highlighting where there are issues, whether good or bad, of reliability and validity. Candidates can develop an understanding of objectivity and subjectivity in their learning at this point, perhaps debating whether researchers can ever be fully detached from their work to be wholly objective.

Experimental and research (participant) designs (2.2.5) include the use of independent groups, repeated measures and matched pairs in research and the issues with each and possible controls that can limit these issues, such as counterbalancing to reduce fatigue. Candidates may benefit from being able to explain how these may impact on a research study and also be able to make the connections between the design decision and statistical test that would be suitable. Centres may also wish to discuss the use of a **control group** (2.2.7) at this stage, explaining why this may be used.

The **control issues** (2.2.10) surrounding methodology are contained within this topic and could be delivered at the start of this content to enable candidates to draw upon the specified content in their evaluations of methodology as it is being delivered. This may aid candidates in their skills of assessing and exemplifying the issues surrounding the methodological choices of researchers in psychology. Working through examples, where they identify ways to control for issues in given scenarios related to the method under review, may be beneficial as they progress

through this topic. They must understand **counterbalancing, randomising, and order effects** (2.2.7), along with experimenter or researcher effects on research studies. The concepts of social desirability and demand characteristics must be clearly understood with an ability to exemplify the impact of this on research. Candidates will need to consider how **participant variables, situational variables** (2.2.8) **extraneous variables, and confounding variables** (2.2.6) may affect the data collected and possible methods to control for these variables. The operationalisation of variables, particularly the independent and dependent variable in a hypothesis, is a skill candidates would benefit from developing alongside their understanding of why this is important.

Section 2.2.11 refers to **List A from Topic A**. Whereas, 2.2.12 introduces **List B** as the second stage of quantitative skills in the qualification. The **decision making and interpretation of inferential statistics** incudes; levels of measurement, a Wilcoxon non-parametric test of difference, probability and levels of significance ($p \leq .10$ $p \leq .05$ $p \leq .01$), the observed and critical values, sense checking of data, one- or two-tailed regarding inferential testing, and Type I and Type II errors. The decisions about, rationale for the use of, and interpretation of inferential statistics (List B) (2.2.12) can be assessed throughout this topic area, (these are exemplified in this guidance). A minimum of 10% of the examination will be targeted at assessing quantitative skills.

Case studies of brain-damaged patients related to research into memory (2.2.13), including the case of Henry Molaison (HM), which centres may have delivered within the content of multi-store model of memory.

Studies

Classic study

Bartlett (1932) War of the Ghosts.

Contemporary study

Schmolck et al. (2002) Semantic knowledge in patient HM and other patients with bilateral medial and lateral temporal lobe lesions.

The classic study (2.3.1) of **Bartlett (1932)**, along with the named contemporary study of (2.3.2) **Schmolck (2002)** have been summarised in the **Summary of Studies** teacher resource for WPS01. Both studies are compulsory and can be assessed in the written examination. They may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity, and subjectivity in their evaluation of studies.

One contemporary study from the following two choices:

Darling et al. (2007) Behavioural evidence for separating components within visuo- spatial working memory.

Sacchi et al. (2007) Changing history: doctored photographs affect memory for past public events.

Centres are required to select **one** of the optional contemporary studies named on the specification. The two optional contemporary studies, **Darling et al. (2007)** (2.3.3) and **Sacchi et al. (2007)** (2.3.4), have been summarised in the **Summary of Studies** teacher resource for WPS01. 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 social psychology, candidates should conduct one **practical research** exercise to gather data relevant to topics covered in cognitive psychology. This practical research exercise must adhere to ethical principles in both content and intention.

Suitable **examples** for this investigation include, but are not exclusive to:

- Dual task experiment to investigate phonological and/or visuospatial components of working memory.
- An experiment to look at acoustic similarity of words and the effect on short-term memory.

In **conducting** the practical research exercise, candidates must:

- design and conduct a laboratory experiment using a repeated measures design to gather quantitative data. Include descriptive statistics in the analysis and apply the Wilcoxon nonparametric test of difference.
- make design decisions when planning and conducting their experiment, using a repeated measures design, sampling decisions, operationalisation, control, ethical considerations, hypothesis construction, experimenter effects, demand characteristics and order effects.
- collect, present and comment on data gathered, including using measures of central tendency (mean, median, mode as appropriate); measures of dispersion (including range and standard deviation as appropriate); bar graph, histogram, frequency graph as relevant; normal distribution if appropriate and draw conclusions.
- use a Wilcoxon non-parametric test of difference to test significance, including level of significance and critical/observed values.
- consider strengths and weaknesses of the experiment, and possible improvements.
- write up the procedure, results and discussion section of a report.

Candidates may benefit from presenting their investigation using the **conventions of published research** (9.1.15) to give them practical experience of this format of psychological research: abstract, introduction, aims and hypotheses, method, results, discussion and the process of peer review. This will aid them in their understanding of conventions of published psychological research, in preparation for Paper 4 where they will be required to revisit this process in a synoptic manner.

Candidates can be assessed on any aspect of their practical investigation in the written examination, for example their results or their use of a laboratory experiment method 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 specific

components of their practical, such as their sampling method or procedure.

Practical investigation example

Dual task experiment to investigate components of working memory.

Planning

Decide which participant design to use out of repeated measures and independent groups (as matched pairs will not be easy to set up), *e.g., using repeated measures to control for individual differences despite possible demand characteristics. Consider how participant variables affect the study.*

Write out the experimental hypothesis, *e.g., participants who complete two written tasks simultaneously will recall less of the material involved than people who have to complete a written and spoken task simultaneously.*

Identify the independent (IV) and dependent (DV) variables, *e.g., IV is whether participants have to complete a dual task using the same working memory component of different working memory components, and DV is material recalled (operationalised in some way).*

Consider issues of operationalisation of variables.

Decide on the apparatus to be used, *e.g., what are the written and spoken tasks? How long will they be?*

Decide on their method of recording each participant's data.

Consider issues such as counterbalancing, randomisation and order effects. Decide on the sampling method and choose the participants. Consider control over participant variables, e.g., opportunity sampling of between 10 and 20 participants.

Write up standardised instructions and ensure ethical considerations are clearly addressed.

Decide on how the experiment will be run (where, when, with whom, for how long etc.). Consider controls over situational variables.

Carrying out the practical

For each participant, log the time of task completion.

Draw up a table with the two conditions clearly displaying the material recalled (in the chosen form).

Analysis of data

Work out descriptive statistics including the mean, median, and mode (aim to have interval data).

Work out measures of dispersion, including the range and standard deviation.

Use a Wilcoxon non-parametric test of difference to test significance (as appropriate), including level of significance and critical/observed values.

Representing results and drawing conclusions

Draw up a bar chart, histogram, and a frequency table using the data gathered.

Draw up a table of results showing measures of central tendency and measures of dispersion.

Write a short paragraph, each looking at issues of reliability, validity, objectivity, and experimenter effects.

Writing up a report

Write up the procedure, results and discussion sections.

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 supporting textbook available: Pearson Edexcel International AS-level Psychology Student book: ISBN978-1292736112.

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

Bartlett (1932) War of the Ghosts.
https://www.psychologywizard.net/reconstructive-memory-ao1-ao2-ao3.html
https://www.simplypsychology.org/eyewitness-testimony.html

Contemporary study

Schmolck et al. (2002) Semantic knowledge in patient HM and other patients with bilateral medial and lateral temporal lobe lesions.
https://www.psychologywizard.net/schmolck-ao1-ao3.html

One contemporary study from the following two choices:

Darling et al. (2007) Behavioural evidence for separating components within visuo-spatial working memory.
http://www.researchgate.net/publication/6405834_Behavioural_evidence_for_separating_components_within_visuo-spatial_working_memory

Sacchi et al. (2007) Changing history: doctored photographs affect memory for past public events.
https://psycnet.apa.org/record/2007-19729-011

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, candidates will develop competence in **Mathematical Skills** (also 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 candidates 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 social psychology **Topic A** and cognitive psychology **Topic B** requires candidates to be able to draw from any of the quantitative skills covered within the two topics.

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

- Levels of measurement
- Wilcoxon non-parametric test of difference
- Probability and levels of significance ($p \leq .10$ $p \leq .05$ $p \leq .01$)
- Observed and critical values, and sense checking of data
- One- or two-tailed regarding inferential testing
- Type I and type II errors

(also covering Spearman's test and Chi-squared once Unit 2 has been covered)

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 a number of resources provided through external publishers that centres may find useful to cross-reference.

Topic	IAS/IAL Content	GCE 2015 Content
A: Social Psychology	1.1.1 Theories of obedience, including agency theory and social power theory.	1.1.1 Theories of obedience, including agency theory and *social impact theory*.
	1.1.2 Research into obedience, including Milgram's research into obedience and three of his variation studies: rundown office block (Experiment 10), telephonic instructions (Experiment 7), ordinary man gives orders (Experiment 13) as they demonstrate situational factors that encourage dissent.	1.1.2 Research into obedience, including Milgram's research into obedience and three of his variation studies: rundown office block (Experiment 10), telephonic instructions (Experiment 7), ordinary man gives orders (Experiment 13) as they demonstrate situational factors that encourage dissent.

	1.1.3 Factors affecting obedience and dissent/resistance to obedience, including individual differences (personality and gender), situation and culture.	1.1.3 Factors affecting obedience and dissent/resistance to obedience, including individual differences (personality and gender), situation and culture.
	1.2.1 Designing and conducting questionnaires and interviews, considering researcher effects.	1.2.1 Designing and conducting questionnaires and interviews, considering researcher effects.
	1.2.3 Unstructured, semi-structured and structured interviews, open, closed (including ranked scale) questions.	1.2.2 Unstructured, semi-structured and structured interviews, open, closed (including ranked scale) questions.
	1.2.4 Alternative hypotheses.	1.2.3 Alternative hypotheses.
	1.2.5 Random, stratified, volunteer, and opportunity sampling techniques.	1.2.4 Random, stratified, volunteer and opportunity techniques.
	1.2.6 (List A) Analysis of quantitative data: 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, fractions.	1.2.5 Analysis of quantitative data: calculating measures of central tendency, frequency tables, graphical presentation using a bar chart, measures of dispersion (range and standard deviation).
	1.2.8 Analysis of qualitative data using thematic analysis.	1.2.6 Analysis of qualitative data using thematic analysis.

	1.2.9 British Psychological Society (BPS) code of ethics and conduct (2009), including risk management when carrying out research in psychology.	1.2.7 British Psychological Society (BPS) code of ethics and conduct (2009) including risk management when carrying out research in psychology.
	1.3.2 Burger (2009) Replicating Milgram: Would people still obey today?	1.3.2 Burger (2009) Replicating Milgram: Would people still obey today?
	1.4.1 One practical research exercise to gather data relevant to topics covered in social psychology. This practical research exercise must adhere to ethical principles in both content and intention.	1.5.1 One practical research exercise to gather data relevant to topics covered in social psychology. This practical research exercise must adhere to ethical principles in both content and intention.
B: Cognitive Psychology	2.1.1 The multi-store model of memory (Atkinson and Shiffrin, 1968), including short- and long-term memory and ideas about information processing, encoding, storage and retrieval, capacity and duration.	2.1.2 The multi-store model of memory (Atkinson and Shiffrin, 1968), including short- and long-term memory, and ideas about information processing, encoding, storage and retrieval, capacity and duration.
	2.1.2 The working memory model (Baddeley and Hitch, 1974).	2.1.1 The working memory model (Baddeley and Hitch, 1974).
	2.1.3 Reconstructive memory (Bartlett, 1932), including schema theory.	2.1.4 Reconstructive memory (Bartlett, 1932) including schema theory.
	2.2.1 Designing and conducting experiments, including field and laboratory experiments.	2.2.1 Designing and conducting experiments, including field and laboratory experiments.
	2.2.2 Independent and dependent variables.	2.2.2 Independent and dependent variables.

	2.2.3 Experimental and null hypotheses.	2.2.3 Experimental and null hypotheses.
	2.2.4 Directional (one-tailed) and non-directional (two-tailed) tests and hypotheses.	2.2.4 Directional (one-tailed) and non-directional (two- tailed) tests and hypotheses.
	2.2.5 Experimental and research designs: repeated measures, independent groups and matched pairs, the issues with each and possible controls.	2.2.5 Experimental and research designs: repeated measures, independent groups and matched pairs.
	2.2.6 Operationalisation of variables, extraneous variables and confounding variables.	2.2.6 Operationalisation of variables, extraneous variables and confounding variables.
	2.2.7 The use of control groups, counterbalancing, randomisation and order effects.	2.2.7 Counterbalancing, randomisation and order effects.
	2.2.8 Situational and participant variables.	2.2.8 Situational and participant variables.
	2.2.9 Objectivity, reliability and validity (internal, predictive and ecological).	2.2.9 Objectivity, reliability and validity (internal, predictive and ecological).
	2.2.10 Experimenter effects, demand characteristics and control issues.	2.2.10 Experimenter effects, demand characteristics and control issues.
	2.2.11 List A from Topic A.	2.2.11 Quantitative data analysis
	2.2.12 (List B) Decision making and interpretation of inferential statistics	2.2.12 Decision making and interpretation of inferential statistics
	2.2.13 Case studies of brain-damaged patients related to research into memory, including the case of Henry Molaison (HM).	2.2.13 Case study of brain-damaged patients, including Henry Molaison (HM) and the use of qualitative data, including strengths and

		weaknesses of the case study.
	2.3.2 Schmolck et al. (2002) Semantic knowledge in patient HM and other patients with bilateral medial and lateral temporal lobe lesions.	2.3.2 Schmolck et al. (2002) Semantic knowledge in patient HM and other patients with bilateral medial and lateral temporal lobe lesions.
	2.4.1 One practical research exercise to gather data relevant to topics covered in cognitive psychology. This practical research exercise must adhere to ethical principles in both content and intention.	2.5.1 One practical research exercise to gather data relevant to topics covered in cognitive psychology. This practical research exercise must adhere to ethical principles in both content and intention.