

AS and A Level Psychology



COMPONENT GUIDE 1 - ISSUE 2

Foundations of Psychology (Topics 1-4)

Psychology 2015

Component Guide 1: Foundations of Psychology

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Introduction

The specification has been developed in consultation with the teaching community, higher education, learned societies and subject associations. Teachers from a range of schools and colleges – in focus groups, phone interviews and face-to-face conversations – have provided feedback at each stage and have helped us to shape the specification. Psychology academics in UK universities have helped us understand how to build on the strengths of the 2008 A level specification and advised on how progression to undergraduate study could be improved.

Component Guide 1: Foundations of Psychology provides an overview of the new specification relating to the foundations of psychology, to help you get to grips with the changes to content and assessment, and to help you understand what these mean for you and your students.

Overview of changes

Changes to AS and A level qualifications

From September 2015, A level Psychology will be a linear qualification. This means that all examinations must be sat at the end of the two-year course.

From September 2015, AS level Psychology will be a stand-alone qualification. This means that it cannot be used to contribute towards an A level Psychology grade.

More information about the changes to subject content is given on page 49-52.

Where AS differs from Year One A level

Year One covers 'Foundations of Psychology' and the AS qualification, **with a few exceptions**, covers the same material.

The differences between AS and Year One are highlighted in this document in **bold**. These include the **issues and debates sections of each topic area**.

The mathematical element (quantitative skills) that is not in the AS but is included in the Year One A level is as follows:

- **D.1.10 Distinguish between levels of measurement.**
- **D.1.12 Select an appropriate statistical test.**
- **D.1.13 Use statistical tables to determine significance.**
- **D.2.2 Substitute numerical values into algebraic equations using appropriate units for physical quantities** (though being able to calculate standard deviation and measures of central tendency is required for AS and Year Two).
- **D.2.3 Solve simple algebraic equations** (see the caveat above).

Two main changes from GCE 2008

The main change in Year One of GCE 2015 is that there are four topic areas rather than five approaches as in GCE 2008. In GCE 2008 there was: social, cognitive, psychodynamic, biological and learning and in GCE 2015 there is social, cognitive, biological and learning. Psychodynamic ideas that focus on aggression are one section in the Biological Psychology topic area.

Another change is the amount of mathematical skills in GCE 2015. With regard to inferential statistics in GCE 2008 (Paper 2) tests included were the Mann–Whitney U test, Spearman's rho and chi squared. In 2015 test are the same three and the Wilcoxon test. In GCE 2015 the tests had to be understood, in 2015 calculations need to be known.

There are other changes too, but these are the main two.

Social Psychology

Key content /topic description

This section focuses on social psychology, with the two main topics being obedience and prejudice (as in GCE 2008).

Individual differences and developmental psychology can be considered when learning about, for example, how both prejudice and obedience can be affected by personality (individual differences) and the effects of gender and culture obedience (culture on prejudice) help to highlight developmental psychology.

Key topic areas:

- Obedience, with Milgram's work as the main focus, three of his variations and factors affecting obedience, is a main topic. Agency theory is required.
- Prejudice is the other main topic area including both social identity theory and realistic conflict theory and factors affecting prejudice.
- In methods, it is interview and questionnaire that are focused on, as well as sampling techniques and ethics.

Table 1:1 content/material in Social Psychology

Social Psychology
<ul style="list-style-type: none"> • Content: obedience (Milgram, factors affecting obedience) and prejudice (social identity theory, realistic conflict theory, factors affecting prejudice). Individual differences are covered when considering the effects of personality and obedience and prejudice. Developmental psychology is covered when considering the effects of culture on obedience and prejudice, and gender on obedience. • Methodology: self-reporting data (interviews and questionnaires), sample selection and techniques, analysis of quantitative and qualitative data and ethical guidelines. • Two studies in detail: Sherif et al. (1954/1961) and one other from a choice of either Burger (2009), Reicher and Haslam (2006) or Cohrs et al. (2012). • One key question of choice • Prescribed practical: survey gathering qualitative and quantitative data.
<ul style="list-style-type: none"> • Issues and debates: focusing on ethics, practical issues when doing research, reductionism and science, culture and gender, nature-nurture, history of psychology, social control and socially sensitive research, comparing theories and how psychology contributes to society. <p>There are 11 issues and debates, listed in each topic area as well as in Topic 9: Psychological Skills. See Component Guide 3: Psychological Skills for more information about the issues and debates sections for each topic area.</p>

Issues and debates in Social Psychology

- **Ethics** (e.g. when researching obedience and prejudice, and also implications of findings in both areas).
- **Practical issues in the design and implementation of research** (issues around informed consent and deception for Milgram; e.g. designing questionnaires and interviews and social desirability).
- **Reductionism** (e.g. the risk of reductionism when drawing conclusions from social data).
- **Comparisons between ways of explaining behaviour using different themes** (e.g. the two theories of prejudice - social identity and realistic conflict).
- **Psychology as a science** (e.g. social desirability in questionnaires; issues of validity in questionnaires).
- **Culture and gender** (e.g. whether prejudice and obedience are influenced by cultural factors or according to gender).
- **Nature-nurture** (e.g. the role of personality in obedience compared with the role of the situation).
- **An understanding of how psychological understanding has developed over time** (e.g. if using Burger's work replicating Milgram and comparing with Milgram's work; or looking at Tajfel's ideas and a contemporary study).
- **Issues of social control** (e.g. reducing prejudice; or how people obey someone in authority/uniform).
- **The use of psychological knowledge within society** (e.g. reducing conflict in society)
- **Issues related to socially sensitive research** (e.g. racism or cultural differences in social psychology).

Detailed content changes

Quite a lot remains the same.

Content: the content remains as obedience and prejudice, though for GCE 2015 more is added. Sherif's work around realistic conflict theory is added for GCE 2015 and the Summer Camp study is the required one, whereas it was a choice in GCE 2008. Individual differences are emphasised in GCE 2015, not in 2008, and other factors regarding obedience and prejudice are brought in.

Methods: similar, with questionnaires and interviews being the focus. The term 'survey' is missing as surveys can use observations so there was some confusion there. There is an emphasis on mathematics more, such as needing to know about standard deviation and also how to calculate it. However, inferential statistics are not introduced until cognitive psychology is studied.

As in GCE 2008 ethics are put in with social psychology, to start students off in the right way from an ethical and risk management point of view.

Studies: Reicher and Haslam (2006) remains a choice in GCE 2015 so can be covered again if that is what is chosen. There are two new studies, both very useful. Burger (2009) replicates Milgram with similar findings, the difference being he just goes to 150 volts. Learning Burger's study can support Milgram's work. Cohrs et al. (2012) focuses not only on prejudice and personality, but also on peer report data versus self-report data, so is useful for the methods sections.

Key question: students choose one key question to focus on in the same way as they chose a key issue in GCE 2008 and for the same reasons.

Practical: this is a questionnaire rather than a choice between questionnaire and interview. There are similarities, however, in what is required. In Year One writing a report is focused on with various aspects of the report included in the different topic areas.

Issues and debates: this section is not for AS students though learning about issues and debates can help. They are not required to study issues and debates for the examination. For A level students, 11 issues and debates are found at the end of each topic area and in each topic area examples of those issues and debates are given to help students to make links.

Table 1:2 comparing Social Psychology in GCE 2015 with GCE 2008

2008 Social Psychology	2015 Social Psychology	Key changes
<p>'Studies in detail were Hofling (1966) and a choice of one from Tajfel (1970), Sherif (1954) and Reicher and Haslam (2006)'.</p> <p>Obedience: Agency theory. Ethical issues in obedience research. Obedience research in a country other than the US.</p> <p>Prejudice: Social identity theory.</p> <p>One key issue from society.</p> <p>Conducting a practical survey (questionnaire or interview).</p>	<p>Studies in detail are Sherif et al. (1954/1961) and a choice of one from Burger (2009), Reicher and Haslam (2006) and Cohrs et al. (2012). So two remain the same.</p> <p>Obedience and Milgram's work (and three named variations) and theories that can apply to obedience (agency theory and social impact theory). Resistance to obedience, including specifically individual differences, situation and culture.</p> <p>Prejudice: social identity theory, realistic conflict theory, factors affecting prejudice, including individual differences, situation and culture.</p> <p>One key question relating to society.</p> <p>Conducting and writing up a practical – not an interview this time, must be a questionnaire.</p>	<p>What new material has been included to replace material that has been removed?</p> <p>Social impact theory as an explanation of obedience. Calculations of measures of central tendency and measures of dispersion. Contemporary studies: Burger (2009), Reicher and Haslam (2006), Cohrs et al. (2012).</p> <p>GCE level: 'Issues and debates are done differently and it is shown how they are embedded in the specification – by listing them in each topic area. More about issues and debates in the specification can be found in Component Guide 3: Psychological Skills (pp.25–29).</p> <p>What has been removed? Tajfel (1970). Hofling (1966). One study of obedience in a country other than the USA. The use of the interview in the practical.</p>

Resources and references

Reference for the classic studies

Sherif et al. (1961)

Sherif, M., Harvey, O.J., White, B.J., Hood, W., & Sherif, C.W. *Intergroup Conflict and Cooperation: The Robbers Cave Experiment*. Norman, OK, The University Book Exchange, 1961, pp. 155–184.

References and links for the contemporary studies

Reicher and Haslam (2006)

Reicher, S.D. & Haslam, S.A. (2006) Rethinking the psychology of tyranny: The BBC prison study. *British Journal of Social Psychology*, 2006, 45, 1–40.

A very detailed overview of the study:

<http://www.holah.co.uk/study/reicherhaslam/>

<http://www.social-science.co.uk/corestudies/?n1=&n2=&id=18>

Full journal article: [http://www.bbcprisonstudy.org/pdfs/BJSP\(2006\)Tyranny.pdf](http://www.bbcprisonstudy.org/pdfs/BJSP(2006)Tyranny.pdf)

Burger (2009)

Burger, J.M. (2009) Replicating Milgram: Would people still obey today? *American Psychologist*, Jan 2009, 64(1), 1–11.

Full journal article: <http://cms.scu.edu/cas/psychology/faculty/upload/Replicating-Milgram.pdf>

Abstract: <http://www.ncbi.nlm.nih.gov/pubmed/19209960>

Cohrs et al. (2012)

Cohrs, J.C.; Kämpfe-Hargrave, N. & Riemann, R. *Journal of Personality and Social Psychology*, Aug 2012, 103(2), 343–361.

Abstract: <http://psycnet.apa.org/journals/psp/103/2/343/>

Other studies include Milgram's work and his variations

Milgram

Milgram's variations are found in his 1974 book.

An article with his 1963 study can be found at:

http://academic.evergreen.edu/curricular/social_dilemmas/fall/Readings/Week_06/milgram.pdf

Tajfel and Turner (1979)

A chapter by Tajfel and Turner on intergroup conflict can be found here:

[http://dtserv3.compsy.uni-jena.de/_C12579E500316406.nsf/0/916B517AB58093DDC12579E6002805C4/\\$FILE/Tajfel%20&%20Turner%201979.pdf](http://dtserv3.compsy.uni-jena.de/_C12579E500316406.nsf/0/916B517AB58093DDC12579E6002805C4/$FILE/Tajfel%20&%20Turner%201979.pdf)

Links for teaching support

<http://www.resourcd.com/@psychexchange> – this website has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

<http://www.psychotron.org.uk/> – this website also has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

www.youtube.com/watch?v=BcvSNG0HZwk – this video links to Milgram’s work.
<https://www.youtube.com/watch?v=eTX42IVDwA4> – another video link for Milgram.

<http://www.psychotron.org.uk/podcasts.html> – podcasts on obedience and Milgrams work.

<http://www.thepsychologyfaculty.org/a-levels/item/156-how-far-does-social-identity-theory-explain-prejudice?-pt1> – social identity theory podcast.

<http://education-portal.com/academy/lesson/what-is-social-psychology-definition-professions-in-the-field.html#lesson> – social psychology videos including research methods.

<http://www.saylor.org/site/wp-content/uploads/2010/12/Milgrams-Study-of-Obedience.pdf> – more about Milgram.

<http://www.theatp.org/wp-content/uploads/2013/08/ATP-Ethics-Guidance-2015-final.pdf> - ethical guidance from ATP: A guide to ethics in practical research activities for pre-tertiary psychology and students

Content guidance and teaching ideas

The table below offers some content guidance, suggested teaching ideas, and cites some possible resources for the social psychology topic. Any of the content in the specification could be assessed using either a single assessment objective (AO) or a combination of assessment objectives (AOs). Any of the taxonomy (command words) could be used to assess any of the content in the specification.

If you have specific queries please contact either the Subject Advisor for Psychology or use the Ask the Expert service. Remember that whilst endorsed material (e.g. text books) or Internet websites can be helpful, the official specification and associated assessment guidance materials are the only authoritative source of information and should always be referred to for definitive guidance. Use of original sources (e.g. journal articles) are encouraged when delivering the specification as endorsed resources (e.g. text books) will not be used as a source of material for any assessment set by Pearson.

Please take note of page 5 in the A-level specification too which gives an important ‘Assessment overview’ and states the following relevant to all areas of the specification:

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

Table 1:3 content guidance and teaching ideas for Social Psychology material

Area of content	Content guidance and teaching ideas
Topic overview	<p>Candidates must be able to show an understanding that social psychology is about how other persons, groups, and society affect an individual. The role of culture influencing all of these aspects must be considered too.</p> <p>Individual differences and developmental psychology must be considered when learning about obedience, prejudice, personality and cultural influences on social behaviour.</p>
Obedience	<p>Candidates need to cover theories of obedience with at least agency theory and social impact theory covered in detail.</p> <p>Candidates are required to learn Milgram’s research into obedience. The most common experiment cited is the ‘original’ (1963) study which was Milgram’s new baseline condition (experiment 5). Candidates also need to know the three variation studies specifically listed in the specification. Other research into obedience can be incorporated here too.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Create a comic sketch of the study from start to finish. Create a summary poster including the strengths and weaknesses of the study. Record a fake ‘enactment’ of the study as it took place. <p>Possible resource(s):</p> <ul style="list-style-type: none"> Milgram, S. (1963). Behavioral study of obedience. <i>Journal of Abnormal and Social Psychology</i>, 67, 371-378. Milgram, S. (1974). Obedience to authority: An experimental view. Harpercollins. Latané, B., 1981. The psychology of social impact. <i>American psychologist</i>, 36(4), p.343. Latané, B., 1996. Dynamic social impact: The creation of culture by communication. <i>Journal of Communication</i>, 46(4), pp.13-25.
Factors affecting obedience	<p>Candidates need to cover factors affecting obedience which include personality, gender, situation, and culture. 1.1.3 and 1.1.6/7 can be taught together to cover both specification points regarding obedience.</p> <p>Ideas:</p> <ul style="list-style-type: none"> A debate where each group takes one factor and they have to put forward an argument as to why their factor is the most important. Posters highlighting how the chosen factor affects obedience and in different situations. Creation of a spider diagram to show the main

	<p>elements of each factor.</p> <p>Find related newspaper articles to see how the factors relate in everyday life.</p>
Prejudice	<p>Candidates need to consider different explanations into prejudice as well as research for each. Both social identity theory and realistic conflict theory need to be covered in detail.</p> <p>Ideas:</p> <p>A debate with one side taking social identity theory and one side taking realistic conflict theory.</p> <p>Doing posters for each, including evaluation.</p> <p>Drawing up a table for each theory showing pros and cons for each.</p> <p>Generating a document with evidence for each, including evaluation of the evidence, to tie in with method issues in the specification.</p> <p>Using for discussions around 'is psychology a science' and 'reductionism'.</p> <p>Using newspapers or a news internet site to raise key questions where one or both theories can be applied to help answer the question (this links to the key question for this topic area).</p> <p>Possible resource(s):</p> <p>Tajfel, H. and Turner, J.C., 2004. The Social Identity Theory of Intergroup Behavior.</p> <p>Sherif, M., 2010. The Robbers Cave Experiment: Intergroup Conflict and Cooperation.[Orig. Pub. as Intergroup Conflict and Group Relations]. Wesleyan University Press.</p> <p>Tajfel, H. and Turner, J.C., 1979. An integrative theory of intergroup conflict. The social psychology of intergroup relations, 33(47), p.74.</p>
Factors affecting prejudice	<p>Candidates need to cover factors affecting prejudice which include personality, situation, and culture. 1.1.5 and 1.1.6/7 can be taught together to cover both specification points regarding prejudice.</p> <p>Ideas:</p> <p>Carousel activity with each group completing a short task on one factor before moving onto the next (comprehension, short questions, crossword).</p> <p>Factors Pictionary – to revise and revisit the factors.</p>
Classic and contemporary study	<p>Sherif et al. (1954/1961) and one of the contemporary studies from the list of three options are required in detail.</p> <p>Ideas:</p> <p>Create a story board of the studies.</p>

	<p>Students create their own questions to assess their understanding of the studies.</p> <p>Role play the studies.</p> <p>Design a poster that the researcher would have created to show people about the study and raise awareness of the findings.</p> <p>Give a summary presentation of the study including the strengths and weaknesses.</p> <p>Possible resource(s): See above table 1.3.</p>
<p>Key question</p>	<p>A suitable key question needs to be covered with all of the AOs prepared for assessment. Please see table 1.4 and information below the table for further guidance.</p> <p>Ideas:</p> <p>Create a display of newspaper and media articles relating to the key question.</p> <p>Debate the importance of the key question on one side and the insignificance of the key question on the other.</p> <p>Create a poster/spider diagram linking the key question to the factors/theories/ideas that have been covered.</p> <p>Possible resource(s): See table 1.4.</p>
<p>Practical investigation</p>	<p>Candidates need to conduct a relevant practical investigation which adheres to the ethical code of conduct (BPS, 2009). You should act as their supervisor and ensure the code of conduct is adhered to throughout and you are able to offer them guidance and support to facilitate them conducting the practical investigation. Candidates can work in groups when collecting and analysing data if they wish but any write up needs to be conducted independently so they grasp an understanding of the practical investigation. Further guidance is in and around table 1.5 below.</p> <p>Ideas:</p> <p>Create a flow chart/story board of the practical from start to finish.</p> <p>Present your practical including strengths and weaknesses to the class.</p> <p>Submit a write up of your practical to a 'journal' for assessment of worthiness to be published and have 'peer reviewing'.</p> <p>Possible resource(s): See table 1.5 and associated guidance.</p>

Suitable examples for key questions

Table 1:4 key questions, links to Social Psychology and possible sources

Key question	Example in Social Psychology	Possible link(s)
<p>What is a reason for two countries or two peoples to fight one another, and how can such fighting be explained/reduced (to help society)?</p>	<p>In the Middle East the struggle for power between the Sunnis and Shiites can be seen as a struggle for resources. This links to a) in-group/out-group and b) realistic conflict theory.</p>	<p>http://www.dw.de/middle-east-countries-fighting-proxy-war-in-syria/a-16848708</p>
<p>Can social psychology be used to prevent bullying?</p>	<p>This links to a) in-group/out-group and b) factors which affect prejudice.</p>	<p>http://www.childline.org.uk/Explore/Bullying/Pages/Bullying.aspx</p>
<p>How can social psychology be used to explain heroism?</p>	<p>Heroism can be about obedience if a society has those norms. It can be about resistance to obedience, depending on the situation. It might be about individual differences in these areas.</p>	<p>http://www.apa.org/monitor/2014/01/everyday-heroes.aspx</p> <p>http://www.psychologytoday.com/blog/in-the-garden-good-and-evil/201203/moral-courage-heroism-and-heroic-rescue</p>
<p>How can knowledge of social psychology be used to reduce prejudice in situations such as crowd behaviour, rioting or football hooliganism?</p>	<p>Applying in-group/out-group ideas, such as building a larger in-group. Or considering realistic conflict and working towards superordinate goals. Ideas about obedience can also apply, such as how to persuade people to obey (be close, be in uniform...)</p>	<p>http://www.lssi.leeds.ac.uk/showcase/the-psychology-of-crowd-behaviour/</p> <p>– talks about crowd behaviour (Leeds University).</p> <p>www.surrey.ac.uk/politics/.../Social%20identity%20chapter%20final.doc</p> <p>– a chapter by Reicher and others on social identity.</p> <p>https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/62641/support</p>

		<p>ingdocumentation1_0.pdf</p> <p>– a government document on crowd behaviour (Leeds University again).</p>
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What to consider when choosing the key question:

- Is the key question of relevance in today’s society?
- Are you able to explain the key question using research and/or theories from the social approach as covered in this specification?
- Can you put forward a for/against argument for the key question?
- Are there any other plausible explanations for the key question? Can the key question be clearly explained to show the way it is important for society or a society?
- Be sure to focus on the key question itself, to describe it, as well as being able to apply concepts, theories and ideas from the social approach to explain it

Practical guidance

Specification requirements

One questionnaire on an issue within Social Psychology, gathering both qualitative and quantitative data.

Use open and closed questions to gather both quantitative and qualitative data and look for a difference. Note that correlation is looked at in Biological Psychology; the point here is to look for a difference.

Focus on issues such as sampling, ethics and questionnaire construction (e.g. using standardised instructions and avoiding response bias, as well as social desirability).

Present an analysis of this data using thematic analysis and measures of dispersion and central tendency, including using a bar graph and frequency table to display data.

Consider sampling, questionnaire construction and ethics. The procedure, results and discussion sections of a report need to be written up, as well as the strengths and weaknesses of the questionnaire.

The purpose of the practical is to give students a feel of how psychology research is conducted and how theories can be developed from the results of this research, as well as helping students to acquire practical skills.

Practical investigations are assessed in the examinations.

Suggested practical investigations

- See if there is in-group preference and out-group hostility.
- A questionnaire to look at the focus on gender and sport in the media, linking to prejudice.
- A questionnaire to see if males or females perceive themselves to be more obedient.

- A questionnaire about prejudiced attitudes (general views, must be ethically sound).

Table 1:5 ideas for practical investigations in Social Psychology

Ideas for practical investigations	Explaining the idea more	Issues that might arise
See if there is in-group preference and out-group hostility.	<p>Work with students to find an in-group/out-group situation. Such as students who study science compared with those who study more 'arty' subjects (or something that appeals to the students...music choice perhaps).</p> <p>Develop some questions that ask about in-group preference and out-group denigration.</p> <p>Take care regarding ethics and risk management.</p>	<p>Ethically the choice of in-group and out-group should be based on a neutral subject rather than a controversial one, such as race or religion.</p> <p>Avoid leading questions (e.g. 'how far do you dislike members of your out-group?'), as valid data are required.</p> <p>Check for issues of social desirability.</p> <p>Only ask for personal data where absolutely necessary (e.g. not parent's education level if not required).</p>
A questionnaire to look at the focus on gender and sport in the media, linking to prejudice.	<p>Work with students to find the main sports to focus on – using newspaper articles to find male protagonism (compared to females).</p> <p>Develop some questions to assess individuals' views around focus on male protagonism in the media and not female...</p> <p>Take care regarding ethics and risk management.</p>	<p>Ensure questions are not leading.</p> <p>Ensure personal data is only requested where this is absolutely necessary; this is to remain ethical (although the gender of participants may be required?).</p>
A questionnaire to see if males or females perceive themselves to be more obedient.	<p>Work with students to find out the area/s of obedience that they are going to focus on.</p> <p>Develop some questions to assess perception of obedience. A pilot study</p>	<p>Avoid leading questions.</p> <p>Try to hide the meaning of the questionnaire in order to avoid social desirability bias, ethically.</p>

	<p>may be required to assess whether the questions are related to the topic of assessing obedience.</p> <p>Take care regarding ethics and risk management.</p>	<p>Ensure personal data is only requested where this is absolutely necessary.</p>
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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 etc.

A couple of suggested practicals are outlined below.

- Obedience levels in males and females.
- People who have experienced prejudice vs. those who haven't.

Write out the alternative hypothesis

For example, there will be a difference in how obedient males and females report themselves to be.

Choose an appropriate sampling method

Sampling must provide sufficient numbers of each group (at least 10 in most cases) and offer an appropriate way of meeting the needs of the questionnaire, e.g. opportunity sampling may be appropriate but this 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 which group the individual falls into.
- Give standardised instructions at the start so that the participants know what is expected of them e.g. to complete the questionnaire on their own with no input from another party.
- Include clear ethical considerations, such as explaining on the front 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.
- Or for an alternative questionnaire (e.g. on prejudice): gather data that will include numbers e.g. score from the closed questions giving assessments of the number of prejudicial comments a person has made towards others in the past month. Or to assess whether males or females are more empathetic (less prejudiced, less authoritarian), include questions assessing the difference in gender of the number of empathetic gestures made in the past month.
- Include open questions such as 'What do you think about differences in gender and obedience? Give reasons for your answer.'
- Gather data that will include comments that can be grouped into themes.

- Decide how to collect data from your questionnaire, whether to post it, email it or hand it out to individuals – this may tie into your 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 measures of central tendency most appropriate and measures of dispersion e.g. scoring answers with the use also 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 that women are more obedient but it is affected by the environment, suggesting that this issue is not clear cut, so qualify the themes...

Representing results and drawing conclusions

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

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

Write a short paragraph giving the strengths and weaknesses of both qualitative and quantitative data, referring to the data gathered for this practical as well as focusing on methodological and ethical issues.

Table 1:6 strengths and weaknesses of qualitative and quantitative data

<p>Strengths of qualitative data:</p> <p>Validity – in that the respondent offers their own opinion freely and without being guided, as they would be in a closed question.</p>	<p>Strengths of quantitative data:</p> <p>Reliability – in that the questions are tested using a pilot study and are robust, so the data from a repeat study can be compared and tested for reliability.</p>
<p>Weaknesses of qualitative data:</p> <p>Reliability – data will be unique to the individual as the questions are open and their opinions are gathered. Their data might change from day to day so the study is not as replicable.</p>	<p>Weaknesses of quantitative data:</p> <p>Validity – if questions are closed, answers are restricted, and the respondent might not find an answer that suits their opinion, but will choose one anyway.</p>

Writing up a report

The various aspects of the practical investigations should be written up in a psychology report and in Social Psychology this involves the procedure, results and discussion. Burger's (2009) study is available online to see what a report looks like, or one of the other studies may also be useful.

Write up the procedure, results and discussion of the practical investigation and know what these sections involve.

Quantitative skills guidance

Although quantitative skills were included in GCE 2008, there is a greater focus on them in GCE 2015 and students will be required to calculate statistics, with the provision of formulae. **Mathematical Skill Requirements** looks at the similarities and differences between the specifications in more detail (pages 2–3).

Social Psychology does not involve inferential statistical testing, which is included in the other three topic areas. However, Social Psychology does require the use of standard deviation including calculations for the examination.

There are some differences in the quantitative skills requirements between AS and A level students, such as knowing how to use a critical values table, however, these differences do not arise in Social Psychology. **This means there are no co-teaching issues in Social Psychology with regard to quantitative skills.**

The quantitative skills of particular relevance in this topic area are:

- Measures of central tendency (mean, median, mode as appropriate) – including when analysing the quantitative data in the practical.
- Measures of dispersion (range and standard deviation) – including when analysing the quantitative data in the practical.
- Thematic analysis of qualitative data – including using thematic analysis in the practical investigation.
- Graphical presentation of data (bar chart).
- Frequency tables.

Issues and debates

The issues and debates are covered within the A Level specification, but not the AS so this will need to be noted for co-teaching.

There are various issues and debates and those relevant to each Topic Area will be covered. There is a list of 11, repeated in each topic area and in Topic 9, and for the most part all 11 can be exemplified in every topic area.

For Social Psychology the issues and debates to be covered are explained on pages 26–30 of component guide 3: psychological skills.

Be ready for the issues and debates to be assessed within the topic content covered in Social Psychology, such as the ethics within research that has been conducted and whether the factors used to explain prejudice and obedience are more on the nature or the nurture side of the debate and so forth.

Cognitive Psychology

Key content /topic description

This section focuses on cognitive psychology with the focus being on memory, as in GCE 2008 (though 'forgetting' is no longer a topic in GCE 2015).

Individual differences and developmental psychology can be considered when learning about, for example, memory differences, memory deficits and how the brain ages.

Key topic areas:

- Four theories of memory: multi store, reconstructive, working memory and episodic/semantic.
- Experiments in psychology and related methodological issues.
- The first time inferential testing is required, including both the Wilcoxon and Mann–Whitney U tests.

Table 2:1 content/material in Cognitive Psychology

Cognitive Psychology
<ul style="list-style-type: none"> • Content: four models of memory: the multi store model, the working memory model, episodic and semantic memory as explanations of long-term memory, reconstructive theory including schema theory. Individual differences include: memory differences and developmental psychology which are covered when considering memory deficits and changes with age. • Methodology: laboratory and field experiments. Case studies of brain damaged patients. Issues with experiments including independent and dependent variables and hypotheses: experimental and null, directional and non-directional. Operationalisation of variables, extraneous and confounding variable. Also experimental design (three types), and coping with the weaknesses of each design (and counterbalancing, randomisation and order effects). And some other issues – situational and participant variables as well as experimenter effects, demand characteristics and control issues. Quantitative data analysis including inferential statistical testing. Also evaluation of experiments, including objectivity, reliability, and validity (internal, predictive and ecological). • Two studies in detail: Baddeley (1966b) and one other contemporary study (from a choice of three); Schmolck et al. (2002), Steyvers & Hemmer (2012) or Sebastián & Hernández-Gil (2012). • One key question of choice. • Prescribed practical: laboratory experiment to gather quantitative data.
<ul style="list-style-type: none"> • Issues and debates (A level only): eleven issues and debates are listed for the specification and appear in each topic area with suitable examples to relate to that topic area. See below. <p>In summary, the 11 issues and debates are: ethics, practical issues when doing research, reductionism and science, culture and gender, nature-nurture, history of psychology, social control and socially sensitive research, comparing theories and how psychology contributes to society.</p>

Issues and debates linked to Cognitive Psychology

- **Ethics** (e.g. Henry Molaison (HM) and confidentiality).
- **Practical issues in the design and implementation of research** (e.g. how to measure memory and the validity of experimental design).
- **Reductionism** (e.g. under-emphasis on the interconnections between parts of the brain in favour of individual parts responsible for memory; artificially breaking memory up into parts like short-term memory and long-term memory for the purposes of study).
- **Comparisons between ways of explaining behaviour using different themes** (e.g. the different memory models).
- **Psychology as a science** (e.g. laboratory experiments and controls).
- **Culture and gender** (not specifically looked at in this Topic Area).
- **Nature-nurture** (e.g. Henry Molaison (HM) and brain function = nature, reconstructive memory emphasises experiences = nurture).
- **An understanding of how psychological understanding has developed over time** (e.g. if studying the development of the working memory model over time; or how the multi store model informed later memory models).
- **Issues of social control** (e.g. perhaps using understanding of memory in court situations).
- **The use of psychological knowledge within society** (e.g. using understanding of memory to help with memory 'loss' such as a memory bus).
- **Issues related to socially sensitive research** (e.g. memory loss related to dementia is socially sensitive for the individual).

Detailed content changes

There are similarities with GCE 2008. Memory, for example, is the main focus. However, specifically forgetting is not included. Instead of two models of memory and two of forgetting, GCE 2015 has four models of memory. Some areas which were previously optional (e.g. reproductive theory) are now specified.

The main focus is on working memory, to reflect the fact that a lot of research has been done in this area. Although working memory draws on the multi-store model, it also links to episodic and semantic memory, so there is a cohesion and also a strong link to GCE 2008 material.

Since working memory is the main focus, Baddeley (1966b) is the classic study, and not Godden and Baddeley (levels of processing are no longer included in the specification). The contemporary studies also reflect the content and have changed accordingly.

With regard to methods, the focus is still on experimental methods, as well as field and laboratory experiments, though naturalistic experiments have been removed. Issues dealt with in methods remain largely the same, such as hypotheses and experimental designs.

Where inferential tests in GCE 2008 all focused on an independent groups design, for cohesion, Wilcoxon is now introduced in Cognitive Psychology, alongside the Mann–Whitney U test. Previously (in GCE 2008) inferential testing was not 'met' until Paper 2, whereas in GCE 2015 it starts in Cognitive Psychology. Issues in inferential testing are almost the same, though Type I and Type II errors are introduced in GCE 2015.

Case studies of patients with brain damage are covered in GCE 2015, but they were not in GCE 2008. They were in fact in Curriculum 2000, and are brought back because they provide a high level of neuroscience as well as evidence for models of memory.

The key question in GCE 2015 is equivalent to the key/contemporary issue from GCE 2008 – so no change there.

The practical investigation is very similar, also a laboratory experiment, though this time introducing inferential testing.

Table 2:2 comparing Cognitive Psychology in GCE 2015 with GCE 2008

2008 Cognitive Psychology	2015 Cognitive Psychology	Key changes
<p>Levels of processing framework for memory and one other theory or model of memory. Cue dependant theory of forgetting and one other theory of forgetting.</p> <p>Godden and Baddeley (1975) + one other study (from a choice of three) of memory or forgetting.</p> <p>Experiments.</p> <p>One key issue from society.</p> <p>Conducting a practical – survey (interview or questionnaire)</p>	<p>Multi store model of memory. Working memory model. Explanation of long-term memory (episodic and semantic). Reconstructive memory, including schema theory.</p> <p>Case study of brain damaged patients (HM).</p> <p>Baddeley 1966b + one contemporary study (from a choice of three) of memory.</p> <p>Experiments.</p> <p>Quantitative data analysis including inferential statistics.</p> <p>One key question from society.</p> <p>Conducting and writing up a practical investigation – a questionnaire.</p>	<p>What has been included? Explanation of long-term memory (episodic, semantic). Reconstructive memory required now – 4 models of memory not 2.</p> <p>Case studies of brain damaged patients.</p> <p>Quantitative skills: Calculating measures of central tendency and measures of dispersion. Normal and skewed distribution. Statistical test choices. Levels of significant. Inferring significance. Type 1 and type 2 errors.</p> <p>Issues and debates specifically added.</p> <p>Individual differences and developmental psychology highlighted.</p> <p>What has been removed? Levels of processing. 'One other theory of forgetting'. Godden and Baddeley (1975). The 'choice of one study' is different. Naturalistic experiments.</p>

Resources and references

Reference for the classic study

Baddeley, A.D. (1966b)

Baddeley, A.D. Working memory model: The influence of acoustic and semantic similarity on long-term memory for word sequences. *Quarterly Journal of Experimental Psychology*, 1966b, 18, 302–309.

References and links for the contemporary studies

Schmolck et al. (2002)

Schmolck, H., Kensinger, E.A., Corkin, S., & Squire, L.R. Semantic knowledge in patient HM and other patients with bilateral medial and lateral temporal lobe regions.

Hippocampus, 2002, 12(4), 520–33.

Full article: https://www2.bc.edu/elizabeth-kensinger/Schmolck_Kensinger_2002.pdf

Steyvers & Hemmer (2012)

Steyvers, M. & Hemmer, P. Reconstruction from Memory in Naturalistic Environments, in Ross, B.H. (Ed.) *The Psychology of Learning and Motivation*, 2012 Vol 56. Elsevier Publishing, pp. 126–144.

Full article: <http://psiexp.ss.uci.edu/research/papers/Bookchapterv14.pdf>

Sebastián & Hernández-Gil (2012)

Sebastián, M.V. & Hernández-Gil, L. Developmental pattern of digit span in Spanish population. *Psicothema*, 2012, 24(2) 183–187.

Full article: <http://www.redalyc.org/articulo.oa?id=72723578001>

Links for teaching support

<http://www.resourcd.com/@psychexchange> – this website has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

<http://www.psychotron.org.uk/> – this website also has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

<http://www.resourcd.com/@psychexchange/file/show/5723> and

<http://www.resourcd.com/@psychexchange/file/show/5731> – podcasts for the multistore model.

<http://www.psychotron.org.uk/newResources/appliedCrimWitnesses.html> – interactive resources for reconstructive memory.

<http://vimeo.com/39163983> –schema theory podcast.

Content guidance and teaching ideas

The table below offers some content guidance, suggested teaching ideas, and cites some possible resources for the cognitive psychology topic. Any of the content in the specification could be assessed using either a single assessment objective (AO) or a combination of assessment objectives (AOs). Any of the taxonomy (command words) could be used to assess any of the content in the specification.

If you have specific queries please contact either the Subject Advisor for Psychology or use the Ask the Expert service. Remember that whilst endorsed material (e.g. text books) or Internet websites can be helpful, the official specification and associated assessment guidance materials are the only authoritative source of information and should always be referred to for definitive guidance. Use of original sources (e.g. journal articles) are encouraged when delivering the specification as endorsed resources (e.g. text books) will not be used as a source of material for any assessment set by Pearson.

Please take note of page 5 in the A-level specification too which gives an important 'Assessment overview' and states the following relevant to all areas of the specification:

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

Table 2:3 content guidance and teaching ideas for Cognitive Psychology material

Area of content	Content guidance and teaching ideas
Topic overview	<p>Candidates must be able to show an understanding that cognitive psychology is about the role of cognitive processes in human behaviour. There is a focus on memory in the content, but cognitive processes include perception, selective attention, language and problem solving as well as memory. The cognitive topic area draws on the computer analogy too.</p> <p>Individual differences and developmental psychology must be considered when learning about memory differences, memory deficits and how this develops as the brain ages.</p>

<p>Memory</p>	<p>Candidates need to know the working memory model, multi store model, reconstructive memory theory inc. schema theory and explanations of long-term memory in detail. The individual differences in memory (2.1.5) can be incorporated into the memory content.</p> <p>Within the memory content there are various memory concepts that also need to be studied (e.g. information processing).</p> <p>Ideas:</p> <ul style="list-style-type: none"> Create a story board of the models from start to finish. Create a summary poster including the strengths and weaknesses of each model. Create a 2 minute summary presentation of each model including the strengths and weaknesses. A debate where each group takes one explanation and they have to put forward an argument as to why their explanation is the most important. Carousel activity with each group completing a short task on one theory/explanation before moving onto the next (comprehension, short questions, crossword). Theories and explanations actors Pictionary – to revise and revisit the all content covered. Group work to apply the theory to a real worked scenario and present to the class. <p>Possible resource(s):</p> <ul style="list-style-type: none"> Baddeley, A., 2012. Working memory: theories, models, and controversies. Annual review of psychology, 63, pp.1-29. Atkinson, R.C. and Shiffrin, R.M., 1968. Human memory: A proposed system and its control processes. Psychology of learning and motivation, 2, pp.89-195. Tulving, E., 1972. Episodic and semantic memory 1. Organization of Memory. London: Academic, 381(4), pp.382-404. Bartlett, F.C. (1932). Remembering: A Study in Experimental and Social Psychology. Cambridge University Press.
<p>Developmental psychology in memory</p>	<p>At least one of the options is required. The Sebastian and Hernandez-Gil study could be covered as a contemporary study which would satisfy 2.1.6 too. Dyslexia or Alzheimer’s are alternatives but both are linked to the Sebastian and Hernandez-Gil study so you may wish to deliver more than one of the possible options to</p>

	<p>give candidates a greater understanding of these areas.</p> <p>Possible resource(s):</p> <p>Sebastián, M.V. and Hernández-Gil, L., 2012. Developmental pattern of digit span in Spanish population. <i>Psicothema</i>, 24(2), pp.183-187.</p> <p>https://www.alzheimers.org.uk/ http://www.nhs.uk/conditions/Alzheimers-disease/Pages/Introduction.aspx https://www.alz.co.uk/about-dementia http://apt.rcpsych.org/content/16/4/299 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3465717/</p>
<p>Classic and contemporary studies.</p>	<p>Baddeley (1966b) and one of the contemporary studies from the list of three options are required in detail. For the Baddeley study only one of the three experiments is required in detail.</p> <p>Ideas:</p> <p>Create a story board or comic sketch of the studies.</p> <p>Students create their own questions to assess their understanding of the studies.</p> <p>Role play the studies.</p> <p>Design a poster that the researcher would have created to show people about the study and raise awareness of the findings.</p> <p>Give a summary presentation of the study including the strengths and weaknesses.</p> <p>Possible resource(s):</p> <p>See above table 2.3.</p>
<p>Key question.</p>	<p>A suitable key question needs to be covered with all of the AOs prepared for assessment. Please see table 2.4 and information below the table for further guidance.</p> <p>Ideas:</p> <p>Create a display of newspaper and media articles relating to the key question.</p> <p>Debate the importance of the key question on one side and the insignificance of the key question on the other.</p> <p>Create a poster/spider diagram linking the key question to the factors/theories/ideas that have been covered.</p>

	<p>Possible resource(s): See table 2.4.</p>
<p>Practical investigation.</p>	<p>Candidates need to conduct a relevant practical investigation which adheres to the ethical code of conduct (BPS, 2009). You should act as their supervisor and ensure the code of conduct is adhered to throughout and you are able to offer them guidance and support to facilitate them conducting the practical investigation. Candidates can work in groups when collecting and analysing data if they wish but any write up needs to be conducted independently so they grasp an understanding of the practical investigation. Further guidance is in and around table 2.5 below.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Create a flow chart/story board of the practical from start to finish. Present your practical including strengths and weaknesses to the class. Submit a write up of your practical to a 'journal' for assessment of worthiness to be published. <p>Possible resource(s): See table 2.5 and associated guidance.</p>

Suitable examples for key questions:

- How can psychologists’ understanding of memory help dementia patients?
- How can knowledge of working memory be used to inform the treatment of dyslexia?
- How has research into adolescent reconstructive memory and attachment been used in clinical practice?

Table 2:4 key questions, links to Cognitive Psychology and possible sources

Key question	Example in Cognitive Psychology	Possible link(s)
How can psychologists’ understanding of memory help dementia patients?	Deficits in working memory, such as are affected by problems in the medial temporary lobe, can be explained, which can help to provide a better understanding of	<p>http://psych.cf.ac.uk/home2/graham/2001/Simons%20JS.%20et.al.%20Neuropsychology%202001.pdf</p> <p>– A study on the issue of episodic and semantic memory issues in dementia.</p> <p>http://www.alzheimers.org.uk/site/scripts/documents_info.php?documentID=260 – explains a lot about dementia and has factsheets.</p>

	<p>dementia.</p> <p>Replacing short-term memory using lists and writing things down, for example.</p> <p>Episodic and semantic memory can be affected too.</p>	
How can knowledge of working memory be used to inform the treatment of dyslexia?	Working memory is a main model of memory and is the topic of the classic study too. Having a poor working memory affects learning.	http://www.deni.gov.uk/06_understanding_memory.pdf – government paper on difficulties.
How has research into adolescent reconstructive memory and attachment been used in clinical practice?	Reconstructive memory is one of the models required, and links to how schemas are used in memory, past experiences, for example.	<p>http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3120118/ – addiction and cognition.</p> <p>http://link.springer.com/chapter/10.1007%2F978-1-4757-5351-6_15#page-1 – an article on the topic.</p>

What to consider if you want to choose your own key issue:

Is the issue of relevance in today’s society?

Are you able to explain this issue using research and/or theories from the cognitive approach?

Can you put forward a for/against argument for this issue?

Are there any other plausible explanations for this issue?

Practical guidance

Specification requirements

One laboratory experiment is required in the topic area of Cognitive Psychology.

Design decisions to include: experimental design, sampling, operationalisation, control, ethical considerations, hypothesis construction, experimenter effects and demand characteristics.

Analysis of quantitative data to include: measures of central tendency and measures of dispersion. Bar chart, histogram and frequency graph to be used to display the data. Issues of normal distribution to be included.

Analysis using inferential testing – Mann–Whitney U or Wilcoxon (as appropriate) and related issues. Include level of significance, critical and observed values. Note

AS students do not have to know about critical and observed values in the examination but do need related issues (such as level of significance and one-or two-tailed) so it is suggested that AS students do the whole practical.

Strengths and weaknesses of the practical investigation should be given.

Suggestions for improvements should be discussed.

Write up the procedure, results and discussion as in Social Psychology.

Suggested practical investigations

- Dual task experiment to investigate components of working memory.
- An experiment to look at acoustic similarity of words and the effect on short-term memory.
- Experiment on the multi-store model of memory.

Table 2:5 ideas for practical investigations in Cognitive Psychology

Ideas for practical investigations	Explaining the idea more	Issues that might arise
Dual task experiment to investigate components of working memory.	<p>Work with students to find a suitable dual task, such as completing a logic reasoning task e.g. mathematical questions and another task such as removing pieces from the board game 'operation'.</p> <p>There should be two tasks using the same component of working memory, and one task using a different one then the experiment can be set up in various ways, with various controls.</p> <p>Develop groups such as those who complete only one task, those who complete two tasks using different components and/or those who complete two tasks using the same components.</p> <p>Take care regarding ethics and risk management.</p>	<p>Ensure the tasks use two different components and/or there are two tasks using the same processing.</p> <p>Ensure mathematical capabilities of students are similar if using a mathematical task etc. – use controls.</p> <p>This should yield 'numbers of words recalled' or something like that (time taken to do a task?), which gives interval data.</p> <p>Interval data will help as the mean and standard deviation can be practised.</p>
An experiment to look at acoustic similarity of words and the effect on short-term memory.	<p>Work with students to find two suitable lists of words, one where they are similar and one where they are dissimilar.</p> <p>Decide on the length of</p>	<p>Ensure words and lists are not too long or too short.</p> <p>Ensuring timing of word presentation is appropriate.</p>

	<p>words and word lists. Perhaps use Baddeley (1966b) and his lists or use similar lists.</p> <p>Take care regarding ethics and risk management.</p>	<p>Decide on simultaneous or sequential presentation of words.</p> <p>There could be partial replication of Baddeley (1966b).</p>
<p>Experiment on the multi-store model of memory.</p>	<p>Work with students to find out the area/s of the multi-store model they will focus on.</p> <p>Develop a digit span type assessment for the capacity of long-term memory or a means of testing long-term memory such as recalling events from the past.</p> <p>Take care regarding ethics and risk management.</p> <p>Be sure to gather quantitative and interval data, because of the testing requirements.</p>	<p>Ensure assessment is linked to the relevant area of the multi store model.</p> <p>Ensure there is not crossover with which part of the multi store model is being assessed (though this could be a different practical investigation).</p>

What to consider if you want to choose your own practical:

- Is it an experiment with a clear independent variable (IV) and dependent variable (DV)?
- Will you be able to gather quantitative data and include descriptive statistics as analysis?
- Is it possible to conduct with the facilities available to you?
- Ensure that you have two clear conditions to assess the effect of the IV on the DV
- Be sure to be ethical, including the issue of competence.
- Are there sufficient controls?
- Are the control issues cited in the specification such as controlling for demand characteristics and experimenter effects, situational and participant variables etc. included?
- Work through the methods section in Cognitive Psychology and use as many of the issues given there as possible (such as Type I and Type II errors), as the practical investigation is there to practise the methodology.

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 though there may be demand characteristics. Consider how this affects 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 is the written and spoken tasks? How long will they be?

Stopwatch.

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...). Consider control 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 Mann–Whitney or 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 or histogram, and a frequency graph 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.

Quantitative skills guidance

The quantitative skills of particular relevance in this topic area are:

- Measures of central tendency – including when analysing the quantitative data in the practical.
- Measures of dispersion – including when analysing the quantitative data in the practical.
- Graphical presentation of data (bar chart) – including from the practical.
- Frequency tables – including from the quantitative data in the practical.
- Completion of a Mann–Whitney U and Wilcoxon test – including one in the practical.
- Issues around inferential testing such as using critical value tables, observed values, doing the tests, Type I and Type II errors, one- or two-tailed, levels of significance.
- A sense check of the data.

Issues and debates

The issues and debates are covered within the A Level specification, but not the AS so this will need to be noted for co-teaching.

There are various issues and debates and those relevant to each Topic Area will be covered. There is a list of 11, repeated in each topic area and in Topic 9, and for the most part all 11 can be exemplified in every topic area.

For Cognitive Psychology the issues and debates to be covered are explained on pages 26-30 of component guide 3: psychological skills. Be ready for the issues and debates to be assessed within the topic content covered in Cognitive Psychology such as ethical issues (case studies of brain damaged patients), science and psychology as well as reductionism (experiments), and other issues...

Biological Psychology

Key content /topic description

There are similarities in Biological Psychology in 2015 compared with GCE 2008. For example, knowing about synaptic transmission and neurotransmitters.

However, there are differences too:

- A main difference is that in 2015 the focus is on aggression whereas in 2008 it was on gender.
- Another main difference is that Freud's ideas about aggression (just part of his main theory) is within Biological Psychology, rather than the biological explanation.
- Genes are not covered in depth though evolution theory asks for some understanding of genes.
- Brain lateralisation is not covered either, as gender is not the main focus.
- What is brought in is a brief look at how drugs work (this issue is returned to in Health Psychology if that option is picked).
- Hormones are important, as are brain structures and brain functioning. Though the focus on aggression rather than gender does bring differences (e.g. testosterone as a hormone linked to aggression rather than gender).
- In methods, a focus is on correlations, which were in the psychodynamic approach in GCE 2008, though twin studies, adoption studies and scanning are also included in the methods section.

Individual differences arise when looking at Freud's ideas about personality and developmental psychology can be covered by considering evolution theory and the role of hormones. Individual differences and developmental psychology can be found in how damage to the brain affects how it functions.

Key topic areas:

- Neurotransmitter functioning and the example of recreational drugs and synaptic transmission.
- Brain structure and functioning (can link with Cognitive Psychology and the study of brain damaged patients) as an explanation of aggression.
- Evolution, natural selection, including aggression
- Freud's ideas about aggression as a contrast to biological explanations.
- Hormones including aggression.
- Correlations.
- Twin, adoption, scanning methods.

Table 3:1 content/material in Biological Psychology

Biological Psychology
<ul style="list-style-type: none"> • Content: the role of the central nervous system (CNS) and neurotransmitters, brain structure, different brain areas (e.g. pre-frontal cortex) and brain functioning and hormones to explain human behaviour (focusing on aggression). The role of evolution and natural selection to explain human behaviour such as aggression. A comparison of the biological and psychodynamic explanations of aggression. The effects of recreational drugs

on transmission. Individual differences covered when Freud looks at the role of personality and possibly using genes and evolutionary explanations. Developmental psychology is used to consider evolution and survival issues.

- **Methodology:** correlational research, the use of Spearman’s rho, brain scanning techniques, twin and adoption studies.
- **Two studies in detail:** Raine et al. (1997) and one other contemporary study (from a choice of three).
- **One key question of choice.**
- **Prescribed practical:** correlation linking to aggression or attitudes to drug use.

- **Issues and debates (A level only):** eleven issues and debates are listed for the specification and appear in each topic area with suitable examples to relate to that topic area. See below.

In summary the 11 issues and debates are: ethics, practical issues when doing research, reductionism and science, culture and gender, nature-nurture, history of psychology, social control and socially sensitive research, comparing theories and how psychology contributes to society.

Issues and debates in Biological Psychology

- **Ethics** (e.g. studying aggression and how findings are used; in the research itself such as issues of confidentiality and informed consent).
- **Practical issues in the design and implementation of research** (e.g. issues in scanning and measuring the complexity of the brain).
- **Reductionism** (e.g. focusing specifically on aggression when studying the brain).
- **Comparisons of ways of explaining behaviour using different themes** (e.g. causes of aggression comparing Freud's ideas and biological explanations).
- **Psychology as a science** (e.g. synaptic transmission; brain scanning techniques).
- **Nature-nurture** (e.g. brain localisation in aggression and environmental influences in aggression).
- **An understanding of how psychological understanding has developed over time** (e.g. development of scanning techniques up to fMRI and development of knowledge accordingly).
- **Issues of social control** (e.g. using knowledge of brain function to control individuals).
- **The use of psychological knowledge within society** (e.g. understanding causes of aggression, in order to perhaps deal with them).
- **Issues related to socially sensitive research** (e.g. HM and confidentiality).

Detailed content changes

There is much that stays the same in the Biological Psychology topic area. However, there are also important changes.

Content: synaptic transmission, the role of neurotransmitters and the use of brain scanning underpin biological psychology and are included in both GCE 2008 and GCE 2015.

The main focus in GCE 2015, however, is on aggression rather than gender, so that theme does make a difference. Brain structure and functioning is in GCE 2015 and in order to narrow the focus, areas 'for' aggression are involved. Brain lateralisation has been removed (though it does appear when discussing case

studies of patients with brain damage in Cognitive Psychology where lateral and bi-lateral brain structures are discussed).

The theory of survival of the fittest is included, which should be known about already.

It is in Biological Psychology that psychodynamic ideas are found as a contrast to biological ideas about aggression. This is a brief look at Freud's ideas rather than any in-depth coverage, and the focus is on catharsis and the power of the unconscious. This enables students to 'meet' this approach ready for Year Two but limits the depth and detail.

The role of hormones in aggression is also explored. The idea is to cover a lot of biological ideas behind aggression to give an overview of issues in biological psychology.

Methods: as far as methods is concerned there are some large differences, as correlation analysis, which was in the Psychodynamic Approach, is now in Biological psychology with related analysis issues such as using a Spearman's rho test.

Scanning is here as in GCE 2008 though CAT scanning and fMRI are there with PET scanning, which is a bit different.

Twin and adoption studies remain though a study for each this time, which is a bit different.

Studies: Raine et al. (1997) with its useful focus on PET scanning and the use of a control group and so on, is now the classic study, whereas it was a choice in GCE 2008. Money (1975) is not in GCE 2015 as gender is no longer the focus. Three new studies are offered as contemporary studies including a study about heroin use (Li et al., 2013), a twin study (Brendgen et al., 2005) and a study on the brain changes involved in heroin relapse in mice (van den Oever et al., 2008).

Key question: this is the key issue from GCE 2008 and a free choice as then.

Practical investigation: this is now a correlation (rather than a test of difference) and issues around carrying out a correlation are involved. Also the practical investigation in GCE 2015 has to be about aggression or drug usage, which is different from GCE 2008.

Table 3:3 comparing Biological Psychology in GCE 2015 with GCE 2008

2008 Biological Psychology	2015 Biological Psychology	Key changes
Focus on gender: Central nervous system and neurotransmitters in human behaviour. Role of genes in behaviour. Gender development: The role of genes, hormones, and brain lateralisation.	Focus on aggression: Central nervous system and neurotransmitters. Brain structure. Evolution. Hormones. Contrast a biological approach with Freud's	What has been included? Aggression as the key focus. Evolution. Hormones. How drugs work at the synapse (recreational). Raine et al. (1997) is now the main study not a choice. Contemporary studies are different.

<p>Evaluate the influence of biological factors on gender development including comparison with explanations.</p> <p>Issues with the use of animals and methodology.</p> <p>Twin and adoption studies PET and MRI scans.</p> <p>Studies: Money (1975) and one from a choice of three.</p> <p>One key issue from society.</p> <p>Conducting a practical – test of difference.</p>	<p>psychodynamic approach (limited).</p> <p>The use of correlations in research.</p> <p>Twin and adoption studies. Brain scanning techniques (CAT, PET, fMRI).</p> <p>Studies: Raine et al. (1997) and one contemporary study from a choice of three.</p> <p>One key question from society.</p> <p>Conducting and writing up a practical investigation that is a correlation.</p>	<p>CAT and fMRI scans.</p> <p>What has been removed? The role of genes in behaviour, though there is the idea of evolution.</p> <p>Brain lateralisation.</p> <p>Gender as a topic focus, now it is aggression.</p> <p>MRI scans, now we have fMRI scanning.</p> <p>Comparison with the learning approach.</p> <p>The use of animals in research – which is in Learning Theories.</p> <p>Money (1975) is replaced as the main study.</p>
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Resources and references

Reference for the classic study

Raine et al (1997)

Raine, A., Buchsbaum, M. & LaCasse, L. Brain abnormalities in murderers indicated by positron emission tomography. *Biological Psychiatry*, 1997, 42(6), 495–508.

References and links for the contemporary studies

Li et al (2013)

Li Qiang, Yang Wei-chuan, Wang Ya-rong, Huang Yu-fang, Li Wei, Zhu Jia, Zhang Yi, Zhano Li-yan, Qin Wei, Yuan Kai, von Deneen, K. M., Wang Wei & Tian Jie. Abnormal function of the posterior cingulate cortex in heroin addicted users during resting-state and drug-cue stimulation task. *Chinese Medical Journal*, 2013, 126(4), 3171–3174.

http://www.cmj.org/ch/reader/create_pdf.aspx?file_no=201321756330110&year_id=2013&quarter_id=4&falq=1

(Note there is another study Li et al (2013) in Child Psychology in Year Two and it is a different study).

Brendgen et al (2005)

Brendgen, M., Dionne, G., Girard, A., Boivin, M., Vitaro, F. & Perussé, D. Examining genetic and environmental effects on social aggression: A study of 6 year old twins. *Child Development*, Jul–Aug 2005, 76(4), 930–946.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8624.2005.00887.x/abstract?deniedAccessCustomisedMessage=&userIsAuthenticated=false>

van den Oever et al (2008)

Van den Oever, M.C., Spijker, S., Smit, A.B., & De Vries, T.J. (2008) Prefrontal cortex AMPA receptor plasticity is crucial for cue-induced relapse to heroin-seeking. *Nature Neuroscience*, 2008, 11, 1053–1058.

<http://www.nature.com/neuro/journal/v11/n9/full/nn.2165.html> Van den Oever et al (2008) Prefrontal cortex AMPA receptor plasticity is crucial for cue-induced relapse to heroin seeking.

Links for teaching support

<http://www.resourcd.com/@psychexchange> – this website has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

<http://www.psychotron.org.uk/> – this website also has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

<http://allpsych.com/psychology101/brain.html> – relevant information about the brain and nervous system.

<http://filestore.aqa.org.uk/subjects/AQA-2185-W-TRB-CEXWPSYB1.PDF> – scroll down to areas of cortical specialisation and evolution for marked exemplar work – can be used for students to assess how many marks should be awarded.

<http://www.psychotron.org.uk/newResources/bioGenes.html> – evolution information and worksheets.

Content guidance and teaching ideas

The table below offers some content guidance, suggested teaching ideas, and cites some possible resources for the biological psychology topic. Any of the content in the specification could be assessed using either a single assessment objective (AO) or a combination of assessment objectives (AOs). Any of the taxonomy (command words) could be used to assess any of the content in the specification.

If you have specific queries please contact either the Subject Advisor for Psychology or use the Ask the Expert service. Remember that whilst endorsed material (e.g. text books) or Internet websites can be helpful, the official specification and associated assessment guidance materials are the only authoritative source of information and should always be referred to for definitive guidance. Use of original sources (e.g. journal articles) are encouraged when delivering the specification as endorsed resources (e.g. text books) will not be used as a source of material for any assessment set by Pearson.

Please take note of page 5 in the A-level specification too which gives an important 'Assessment overview' and states the following relevant to all areas of the specification:

- Students should be able to define any terms given in the specification

- Students may be required to respond to stimulus material using psychological concepts, theories and research from across topic areas.
- Students may be asked to consider issues of validity, reliability, credibility, generalisability, objectivity and subjectivity in their evaluation of studies and theories.

Table 3:4 content guidance and teaching ideas for Biological Psychology material

Area of content	Content guidance and teaching ideas
Topic overview	<p>Candidates must be able to show an understanding that biological psychology is about the mechanisms within our body and understand how they affect our behaviour. There is a focus on aggression here, but you will notice that there is a more general expectation of their role in human behaviour (as identified in the individual specification points).</p> <p>Individual differences and developmental psychology must be considered when learning about issues. An example could be aggression caused by an accident. Also, how the function of structures of the brain can be affected by the environment.</p>
<p>The role of the central nervous system (CNS) and neurotransmitters to explain human behaviour.</p> <p>The effect of recreational drugs on the transmission process in the central nervous system.</p>	<p>Candidates need to know how the central nervous system affects human behaviour and the role of neurotransmitters in human behaviour, including the structure and role of the neuron, the function of neurotransmitters and the process of synaptic transmission. It is always a good idea to show lots of diagrams and videos of the structures and their processes in action, using lots of examples.</p> <p>There is also a requirement for candidates to know how recreational drugs influence the synaptic transmission process in the CNS. This means candidates can see how the process works with and without recreational drugs.</p> <p>Ideas:</p> <ul style="list-style-type: none"> ○ Create a comprehension activity to assess understanding. ○ Create a summary poster. ○ Create a 2 minute summary presentation of the role of the CNS and neurotransmitters on behaviour. ○ Students create summary questions to assess class understanding. <p>Possible resource(s):</p> <ul style="list-style-type: none"> ○ http://biology.about.com/od/organsystems/ss/central-nervous-system.htm ○ https://faculty.washington.edu/chudler/chnt1.html ○ http://thebrain.mcgill.ca/flash/i/i_01/i_01_m/i_01_m_ana/i_01_m_ana.html

	<p>http://www.columbia.edu/cu/psychology/courses/1010/mangels/neuro/transmission/transmission.html</p> <p>http://outreach.mcb.harvard.edu/teachers/Summer05/RaymondBroadhead/Synapses and Drugs.pdf</p> <p>http://thebrain.mcgill.ca/flash/i/i_03/i_03_m/i_03_m_par/i_03_m_par_alcool.html#drogues</p>
<p>Brain structure, different brain areas (e.g. pre-frontal cortex) and brain functioning to explain human behaviour.</p> <p>The role of hormones (e.g. testosterone) to explain human behaviour, such as aggression.</p>	<p>Candidates need to know the basic brain structure, such as the lobes of the brain. They need to know the different brain areas. An example of the pre-frontal cortex is given here to illustrate the core material but it is not exhaustive (see page 5 in the specification about examples given). Candidates also need to have an understanding of how brain functioning affects human behaviour. Part of 3.1.7 could be covered here too with regard to how the damage to the brain could affect individual differences.</p> <p>There is a requirement to look at the role of hormones in human behaviour. An example is given to further illustrate the core material here (the example given is aggression) but as with all examples on the specification it is only indicative and additional examples not states may also be assessed (see pg. 5 in the specification for further information).</p> <p>Note that 3.1.8 states the role of hormones in human development whereas 3.1.6 states the role of hormones to explain human behaviour. Make sure you cover both in your delivery.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Posters highlighting the different parts of the brain and the role they have in behaviour. Creation of a spider diagram to show the main parts of the brain and the impact on behaviour/ or do the same for hormones, or combine. Create a presentation on brain structure and hormones. <p>Possible resources:</p> <p>http://www.indiana.edu/~busey/Q301/BrainStructure.html</p> <p>https://commons.wikimedia.org/wiki/File:Lobes_of_the_brain_NL.svg</p> <p>http://www.nhs.uk/ipgmedia/National/Macmillan%20Cancer%20Support/assets/Thebrain-structureandfunctionMCS5pages.pdf</p> <p>http://thebrain.mcgill.ca/intermediaire.php</p> <p>https://www.britannica.com/science/human-development</p> <p>http://biomedphys.sgu.ru/Files/LIB/Springer/New%20Aspects%20of%20Human%20Ethology%20/08.pdf</p>

	<p>https://thepsychologist.bps.org.uk/volume-22/edition-1/testosterone-and-male-behaviours</p>
<p>The role of evolution and natural selection to explain human behaviour, including aggression.</p>	<p>Candidates need to know the role of evolution and natural selection to explain human behaviour. As with the other content sections here there is a suggestion of aggression as a focus but this is just an example (as above).</p> <p>Note that 3.1.8 states the role of evolution in human development whereas 3.1.4 states the role of evolution to explain human behaviour. Make sure you cover both in your delivery.</p> <p>Ideas:</p> <p>A debate where each group takes one explanation and they have to put forward an argument as to why their explanation is the most important.</p> <p>Doing posters for each explanation including relevant strengths and weaknesses.</p> <p>Drawing up a table for each explanation showing pros and cons for each.</p> <p>Possible resources:</p> <p>http://thebrain.mcgill.ca/flash/d/d_05/d_05_cr/d_05_cr/her/d_05_cr/her.html</p> <p>https://scienceforthekids.wordpress.com/2013/03/12/what-is-evolution/</p> <p>http://www.factmonster.com/ipka/A0932663.html</p> <p>http://labs.la.utexas.edu/buss/files/2015/09/human-aggression-1997-clin-psych-rev.pdf</p> <p>http://link.springer.com/referenceworkentry/10.1007%2F978-1-4020-8265-8_200099</p>
<p>Biological and psychodynamic explanations of aggression.</p>	<p>Candidates need to know the biological explanation of aggression. This may have been covered within other specification points (where examples of aggression have been given).</p> <p>Freud’s psychodynamic explanation of aggression is also required here, with the specific key terms stated too.</p> <p>The Freud part of 3.1.7 could be delivered with Freud’s theory.</p> <p>Ideas:</p> <p>Debate – which explanation can best explain a certain behaviour – e.g. aggression.</p> <p>Carousel activity with each group completing a short task on one theory/explanation before moving onto the next (comprehension, short questions, crossword).</p> <p>Explanations Pictionary – to revise and revisit all</p>

	<p>content covered.</p> <p>Group work to apply the theory to a real world scenario and present to the class.</p> <p>Possible resources:</p> <p>https://thepsychologist.bps.org.uk/tags/freud</p> <p>Jarrett, C., 2011. The Rough Guide to Psychology. Dorling Kindersley Ltd.</p> <p>Freud, S. (1915). The unconscious. SE, 14: 159-204.</p> <p>Freud, S. (1920). Beyond the pleasure principle. SE, 18: 1-64.</p> <p>Freud, S. (1923). The ego and the id. SE, 19: 1-66.</p>
<p>Classic and contemporary studies.</p>	<p>Raine et al. (1997) and one of the contemporary studies from the list of three options are required in detail.</p> <p>Ideas:</p> <p>Create a story board or comic sketch of the studies.</p> <p>Students create their own questions to assess their understanding of the studies.</p> <p>Role play the studies.</p> <p>Design a poster that the researcher would have created to show people about the study and raise awareness of the findings.</p> <p>Give a summary presentation of the study including the strengths and weaknesses.</p> <p>Possible resources:</p> <p>See above table 3.4.</p>
<p>Key question.</p>	<p>A suitable key question needs to be covered with all of the AOs prepared for assessment. Please see table 3.5 and information below the table for further guidance.</p> <p>Ideas:</p> <p>Create a display of newspaper and media articles relating to the key question.</p> <p>Debate the importance of the key question on one side and the insignificance of the key question on the other.</p> <p>Create a poster/spider diagram linking the key question to the factors/theories/ideas that have been covered.</p> <p>Possible resource(s):</p> <ul style="list-style-type: none"> • See table 3.5.
<p>Practical investigation.</p>	<p>Candidates need to conduct a relevant practical investigation which adheres to the ethical code of conduct (BPS, 2009). You should act as their supervisor and ensure the code of conduct is adhered to throughout and you are able to offer them guidance and support to</p>

	<p>facilitate them conducting the practical investigation. Candidates can work in groups when collecting and analysing data if they wish but any write up needs to be conducted independently so they grasp an understanding of the practical investigation. Further guidance is in and around table 3.6 below.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Create a flow chart/story board of the practical from start to finish. Present your practical including strengths and weaknesses to the class. Submit a write up of your practical to a 'journal' for assessment of worthiness to be published. <p>Possible resource(s):</p> <p>See table 3.6 and associated guidance.</p>
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Suitable examples for key questions:

- How effective is drug therapy for treating additions? e.g. methadone to treat heroin addiction
- What are the implications for society if aggression is found to be caused by nature not nurture
- Is intelligence inherited?

Table 3:5 key questions, links to Biological Psychology and possible sources

Key question	Example in biological psychology	Possible link(s)
How effective is drug therapy for treating addictions? e.g. methadone to treat heroin addiction?	The way recreational drugs work in the brain, at the synapse, is studied and that can help to explain drug therapy. This question is about how effective drug therapy might be. van den Oever et al (2008) can link in here too, showing that cues in the environment can	<p>http://www.cdc.gov/idu/facts/methadonefin.pdf</p> <p>– a paper on methadone treatment.</p> <p>http://www.drugabuse.gov/publications/principles-drug-addiction-treatment-research-based-guide-third-edition/frequently-asked-questions/how-effective-drug-addiction-treatment</p> <p>– National Institute on Drug Abuse site.</p> <p>http://well.blogs.nytimes.com/2013/02/04/effective-addiction-treatment/?_php=true&_type=blogs&_r=0</p> <p>Article in the New York Times.</p>

	affect brain structure/ changes.	
What are the implications for society if aggression is found to be caused by nature not nurture?	Hormones, neurotransmitters, brain structure, brain functioning and evolution have been put forward as linking to aggression in humans. These link to nature. Question: if aggression comes from nature what are the implications?	<p>http://www.community.nsw.gov.au/docswr/_assets/main/documents/aggression_discussionpaper.pdf – a paper on the development of aggression in young children.</p> <p>http://unesdoc.unesco.org/images/0000/000036/003637eo.pdf – a detailed document on understanding aggression.</p> <p>http://www.nasponline.org/publications/booksproducts/nas-cbiii-05-1001-009-r02.pdf – anger and aggression.</p>
Is intelligence inherited?	Evolution suggests that there is survival of the fittest and this is the fittest gene combination. So there will be some learning about genes. Also twin and adoption study are about genes and environment and can be used in the argument. Brendgen et al (2005) is a twin study.	<p>http://www.dailymail.co.uk/sciencetech/article-2293861/Thank-parents-youre-smart-Up-40-childs-intelligence-inherited-researchers-claim.html – Daily Mail article for discussion.</p> <p>http://blogs.scientificamerican.com/beautiful-minds/2013/10/17/the-heritability-of-intelligence-not-what-you-think/ – Scientific American article/blog.</p>

What to consider if you want to choose your own key issue:

Is the issue of relevance in today’s society?

Are you able to explain this issue using research and/or theories from the biological approach?

Can you put forward a for/against argument for this issue?

Are there any other plausible explanations for this issue?

Practical guidance

Specification requirements

One correlation in biological psychology with related issues such as using a Spearman's rho test.

Suggested practicals

- A correlation to see if there is a relationship between age and aggression.
- A correlation between parents' and children's attitudes towards whether aggression is innate.
- A correlation to see if there is a relationship between height and a self-rating of aggressive tendencies.

Table 3:6 ideas for practical investigations in Biological Psychology

Ideas for practical investigations	Explaining the idea more	Issues that might arise
A correlation to see if there is a relationship between age and aggression.	<p>Find newspaper articles/statistics on aggressive crimes.</p> <p>Map the ages of the perpetrators.</p> <p>Decide what will count as aggression.</p> <p>Create a scale to assess correlation – age is the other variable so actual age is probably best.</p> <p>Take care regarding ethics and risk management.</p>	<p>Ethical issues with studying aggression.</p> <p>Availability of ages of participants.</p> <p>Ensuring that the acts are aggressive – what qualifies as an aggressive act – though self-rating of aggression would suffice.</p>
A correlation between parents' and children's attitudes towards whether aggression is innate.	<p>Work with students to create a suitable questionnaire to assess if aggression is innate.</p> <p>Decide what constitutes aggression and make it clear.</p> <p>Create a scale to assess correlation – check access to parent/child pairs and how to make sure the two questionnaires (if used) can be matched (Parent A and Child A, for example).</p> <p>Also use adolescents or older people, as working with children has different ethical considerations.</p>	<p>Avoid leading questions.</p> <p>Ensure wording and meaning of questions is clear.</p> <p>Creation of scale to assess correlation.</p> <p>Aim to find someone over 18 and their parent, to avoid using children in the study.</p>

	Take care regarding ethics and risk management.	
A correlation to see if there is a relationship between height and a self-rating of aggressive tendencies.	<p>Work with students to create a suitable questionnaire to self-assess aggression.</p> <p>Decide what constitutes aggressive tendencies – though using self-ratings should be okay for that.</p> <p>Create a scale to assess correlation.</p> <p>Take care regarding ethics and risk management.</p>	<p>Avoid leading questions.</p> <p>Ensure wording and meaning of questions is clear.</p> <p>Creation of scale to assess correlation.</p>

What to consider if you want to choose your own practical

- Is it a correlation?
- Are the two variables easily measurable?
- How are you going to collect information for the two variables? This could be a questionnaire, test etc.?
- Will you be able to gather quantitative data in the form of two 'scales' that can be compared (correlated)?
- Is it possible to conduct with your facilities?
- Make sure that what you are measuring suits the aim, such as self-rating of aggression or aggression itself (which is harder to measure).

Planning – a correlation to see if there is a relationship between height and a self-rating of aggressive tendencies.

Choose a sampling method and find participants, e.g. it makes sense to use a range of males and females and all over 16. Better if over 18 as more ethical and the use children or young people has different ethical implications.

Create an assessment for aggression such as a questionnaire. Closed, quantitative questions will be needed – a measure of self-rating of aggression. And height is required.

Write out an appropriate alternative hypothesis clearly giving operationalised co-variables and focusing on whether the hypothesis is directional or non-directional, e.g. people who are taller (in cm) will have higher aggression score (own perception of aggression) out of 20 than people who have a shorter height (in cm). As it is not clear whether height does link to self-ratings of aggression, perhaps a non-directional approach is best.

Prepare the materials so that the participants can all carry out all the test(s).

Carrying out the practical

Carry out the test(s) for each participant (measure their height or ask them their height, and collect the questionnaire for self-rating of aggression) and record the scores.

Draw up a table showing the scores for each participant including their height and aggression score.

Analysis of data

Produce a relevant scatter graph and descriptive statistics.

Look at the data to see whether variables look specifically linked (a sense check)

Carry out a Spearman's rho test to see if any relationship is significant or not. Choose an appropriate level of significance and focus on why the Spearman's rho is the right one.

Explain any relationship clearly such as positive or negative (or no) correlation and strength.

Drawing conclusions

Put together the hypothesis and results analysis that have already been produced, so that there is a brief report.

Write one short paragraph each to consider the issues of reliability, validity, credibility and generalisability with regard to the study. Use these issues to consider strengths and weaknesses of the study.

Writing up a report

Produce an abstract for your study and a discussion sections with conclusions.

Quantitative skills guidance

The quantitative skills of particular relevance in this topic area are:

- Analysis of, use of, and drawing conclusions from correlational studies.
- Using inferential statistical testing (use of Spearman's rho).
- Reasons for choosing Spearman's rho (this means not in the AS).
- Issues of statistical significance.
- Levels of measurement (ordinal, interval, nominal).
- Critical and observed values (not in AS)
- The use of alternate, experimental and null hypotheses.
- The use of IV and DV in experiments and co variables in correlations.
- The use of control groups, randomised trials, randomising to groups.

Issues and debates

The issues and debates are covered within the A Level specification, but not the AS so this will need to be noted for co-teaching.

There are various issues and debates and those relevant to each Topic Area will be covered. There is a list of 11, repeated in each topic area and in Topic 9, and for the most part all 11 can be exemplified in every topic area.

For Biological Psychology the issues and debates to be covered are explained on pages 26-30 of component guide 3: psychological skills.

Be ready for the issues and debates to be assessed within the topic content covered in Biological Psychology, such as nature-nurture (twin studies and adoption studies), the scientific side of psychology, reductionism, and ethics when doing research such as scanning...

Learning Theories

Key content /topic description

This section focuses on learning theories, which comprise classical and operant conditioning and social learning as in GCE 2008.

Individual differences and developmental psychology can be considered when learning about, for example, the effects of social learning (including effects of culture), as well as other effects such as rewards and stimuli.

Key topic areas:

- Classical conditioning including Pavlov (1929).
- Operant conditioning (including shaping).
- Social learning theory (including three of Bandura's Bobo doll studies).
- Learning theories and explaining phobias.
- Treatments for phobias based on learning theories including systematic desensitisation (and one other).

Table 4:1 content/material for Learning Theories

Learning Theories
<ul style="list-style-type: none"> • Content: the features of classical conditioning, Pavlov (1927). The features of operant conditioning including types of reinforcement and behaviour modification. The features of social learning theory, including stages and also Bandura’s original experiments (1961, 1963) with Bandura (1965) – vicarious reinforcement. Learning theories to explain phobias and also as treatments for phobias. Individual differences are included when considering how different people respond to different role models perhaps, through experience. Developmental psychology is there in all the learning theories; they all affect how behaviour is affected by experience. • Methodology: observational research to collect qualitative and quantitative data. Content Analysis, the use of animals in laboratory experiments and the ethics of this. Inferential statistics and the chi squared test. Thematic analysis to analyse qualitative data. The scientific status of psychology. • Two studies in detail: Watson and Rayner (1920) as the classic study, and one other contemporary study (from a choice of three). • One key question of choice. • Prescribed practical: two observations, one qualitative and one quantitative with a chi squared analysis – or one observation that gathers both qualitative and quantitative data.
<ul style="list-style-type: none"> • Issues and debates (A level only): eleven issues and debates are listed for the specification and appear in each topic area with suitable examples to relate to that topic area. See below. In summary, the 11 issues and debates are: ethics, practical issues when doing research, reductionism and science, culture and gender, nature-nurture, history of psychology, social control and socially sensitive research, comparing theories and how psychology contributes to society.

Issues and debates in Learning Theories

- **Ethics** (e.g. the ethical issues involved in using animals in studies).
- **Practical issues in the design and implementation of research** (e.g. generalising from animal study findings to humans).
- **Reductionism** (in the way behaviourism reduces behaviour into parts to be studied).
- **Comparisons between ways of explaining behaviour using different themes** (e.g. different learning theories).
- **Psychology as a science** (e.g. in the methodology; in the explicit focus of behaviourism on the measurable).
- **Culture** (e.g. relates to reinforcement patterns in learning theory as well as social learning theory and what is modelled) and **gender** (e.g. if used in the practical research exercise; and in observational learning issues).
- **Nature-nurture** (e.g. in the observations if looking at gender or age or characteristics as these can be learned or biologically given).
- **An understanding of how psychological understanding has developed over time** (e.g. can come through choice of study, such as if looking at video game violence; or through current therapy practice).
- **Issues of social control** (e.g. use of learning theories in therapy can be social control, including issues of power of the therapist).
- **The use of psychological knowledge within society** (e.g. using patterns of reward to shape behaviour in schools or prisons).
- **Issues related to socially sensitive research** (e.g. issues of the power of the therapist).

Detailed content changes

Content: there are many issues that are the same in both GCE 2008 and GCE 2015. All three learning theories are again the main focus in the content. There is not much that is different. In GCE 2015 there is an applied focus in seeing how learning theories explain phobias, as well as their maintenance and their treatment, which is different (though a treatment was required in GCE 2008). Three Bandura studies are in the content in GCE 2015, which is different, though a Bandura study was the classic study in GCE 2008.

Methods: Again there is a major similarity in that observation is the main method studied. Though content analysis is added in GCE 2015. Using animals in laboratory experiments is a focus too, and the ethics of doing that. The ethics of using humans in lab studies is removed for GCE 2015 because that features in Social Psychology. Analysis of data is similar, with the chi squared statistical test featured as before, together with related issues such as level of measurement and reason for choosing a test. Note for AS student levels of measurement and reasons for choice of test are not required in the examination though. Another issue in the methods section is the focus on whether psychology is a science and what 'science' means in this context. That is new for GCE 2015. Issues and debates are reflected in this section – psychology as science and reductionism as well – and AS students cover the idea of psychology as a science, so to that to some extent at least some of the issues and debates are in the AS course.

Studies: the classic study is Watson and Rayner (1920) which was a choice before. The GCE 2008 specified study was one of the Bobo doll studies (Bandura) which is

still in GCE 2015, in the content (three of the Bandura studies in GCE 2015). The contemporary studies in GCE 2015 are different. They match the requirements of the specification in that Capafóns et al (1998), for example, is a study about fear of flying and using systematic desensitisation. Becker et al (2002) relates to social learning and Bastian et al (2011) relates to violence and video games, again linking to social learning

Key question: this is the same as in GCE 2008, a free choice.

Practical investigation: this is similar to GCE2008 in that an observation is required, with a chi squared test.

Table 4:2 comparing Learning Theories in GCE 2015 with GCE 2008

2008 Learning Theory	2015 Learning Theories	Key changes
Classical conditioning. Operant conditioning. Social learning theory. Learning theory to explain gender development. Comparison of gender explanation with biological and psychodynamic approach. Observation and laboratory experiment as a research method using animals too. Ethical guidelines when using humans and animals. Chi squared test. Studies: Bandura et al (1961). One other study from a choice of three. One key issue from society. Conducting a practical – observation.	Classical conditioning. Operant conditioning. Behaviour modification through shaping behaviour. Schedules of reinforcement. Social learning theory and stages. Explanation and treatment of phobias using learning theory principles. Observation and content analysis. Use of animals in lab experiments and ethics. Chi squared test. Studies: Watson and Rayner (1920). One contemporary study from a choice of three. One key question from society. Conducting and writing up a practical – an observation.	<p>What has been included? Behaviour modification and focus on phobias.</p> <p>The three Bandura studies (though one was in GCE 2008 but not as content).</p> <p>Watson and Rayner (1920) as a key study instead of a choice, and different contemporary studies.</p> <p>Psychology as a science, replicability, reductionism, empiricism and other issues.</p> <p>Content analysis has been added.</p> <p>What has been removed? Ethical guidelines of using humans, though they are elsewhere.</p> <p>Gender development and comparison with other approaches.</p>

Resources and references

Reference for the classic study

Watson and Rayner (1920)

Watson, J.B. & Rayner, R. Little Albert: Conditioned emotional reactions. *Journal of Experimental Psychology*, 1920, 3(1), 1–14.

References and links for the contemporary studies

Becker et al (2002)

Becker A.E., Burwell, R.A., Herzog, D.B., & Hamburg, P. Eating behaviours and attitudes following prolonged exposure to television among ethnic Fijian adolescent girls. *The British Journal of Psychiatry*, 2002, 180, 509–514.

<http://bjp.rcpsych.org/content/180/6/509#BIBL>

Bastian et al (2011)

Bastian, B., Jetten, J., & Radke, H.R.M. Cyber-dehumanization: Violent video game play diminishes our humanity. *Journal of Experimental Social Psychology*, 2011, 48, 486–491 (Note it says 2011 on the paper though the article is in the Journal 2012).

<http://www2.psy.uq.edu.au/~uqbbast1/Bastian%20et%20al%20JESP%20in%20press.pdf>

Capafons et al. (1998)

Capafóns, J.I., Sosa, C.D., & Averó, P. Systematic desensitisation in the treatment of the fear of flying. *Psychology in Spain*, 1998, 2(1), 11–16.

<http://www.psychologyinspain.com/content/reprints/1998/2.pdf>

Links for teaching support

<http://www.resourcd.com/@psychexchange> – this website has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

<http://www.psychlotron.org.uk/> – this website also has many teaching ideas and worksheets which can be adapted for your purpose. Be careful to take note of new specification changes when using any material from 2008 specifications.

<https://itunes.apple.com/gb/itunes-u/great-ideas-in-psychology/id419204493?mt=10> – Podcasts 18/19 and 20 cover classical and operant conditioning and observational learning.

<http://www.psychlotron.org.uk/newResources/perspLearning.html> – classical and operant conditioning presentations and worksheets.

http://www.youtube.com/watch?v=NjTxQy_U3ac – Bandura (1961) video shows original footage.

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

Content guidance and teaching ideas

The table below offers some content guidance, suggested teaching ideas, and cites some possible resources for the learning theories topic. Any of the content in the specification could be assessed using either a single assessment objective (AO) or a combination of assessment objectives (AOs). Any of the taxonomy (command words) could be used to assess any of the content in the specification.

If you have specific queries please contact either the Subject Advisor for Psychology or use the Ask the Expert service. Remember that whilst endorsed material (e.g. text books) or Internet websites can be helpful, the official specification and associated assessment guidance materials are the only authoritative source of information and should always be referred to for definitive guidance. Use of original sources (e.g. journal articles) are encouraged when delivering the specification as endorsed resources (e.g. text books) will not be used as a source of material for any assessment set by Pearson.

Please take note of page 5 in the A-level specification too which gives an important 'Assessment overview' and states the following relevant to all areas of the specification:

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

Table 4.3 content guidance and teaching ideas for Learning Theories material

Area of content	Content guidance and teaching ideas
Topic overview	<p>Candidates must be able to show an understanding that learning theories are about learning from the environment and of the effects of conditioning, reinforcement, punishment, the role of reward and social learning on the organism. Therefore candidates need to be able to apply any of learning theories to novel learning from any organism as specified here.</p> <p>Individual differences and developmental psychology must be considered when learning about the effects of rewards and punishment on individuals and how children develop through the different ways of learning.</p>
The features of classical conditioning, Pavlov (1927).	<p>Candidates need to know classical conditioning in detail including the terms listed in the specification. Pavlov’s experiment with dogs is expected too here in detail. Pavlov can be used as an example of classical conditioning but it is recommended candidates are exposed to numerous examples of learning through association during delivery.</p> <p>Ideas: Create a comprehension activity to assess understanding.</p>

	<p>Create a summary poster including strengths and weaknesses of Pavlov.</p> <p>Create a 2 minute summary presentation of classical conditioning and Pavlov’s study.</p> <p>Students create summary questions to assess class understanding.</p> <p>Possible resource(s):</p> <p>http://psychclassics.yorku.ca/Pavlov/</p> <p>http://psychclassics.yorku.ca/Pavlov/lecture3.htm</p> <p>Watson, J. B. (1913). Psychology as the behaviorist views it. Psychological Review, 20, 158–177.</p> <p>Watson, J. B., & Rayner, R. (1920). Conditioned emotional reactions. Journal of Experimental Psychology, 3(1), pp. 1–14.</p> <p>Watson, J. B. (1924). Behaviorism. New York: People's Institute Publishing Company.</p>
<p>The features of operant conditioning, behaviour modification.</p>	<p>Candidates need to know operant conditioning in detail including the terms listed in the specification. Behaviour modification and different types of reinforcement are required too here. As with classical conditioning above, it is recommended candidates are exposed to numerous examples of learning through reinforcement during delivery.</p> <p>Ideas:</p> <p>Posters highlighting the different parts of operant conditioning and how they impact behaviour.</p> <p>Each student to come up with one original example of operant conditioning and behaviour modification – could present to class verbally or as a picture.</p> <p>Use examples and let students guess which part of conditioning the example links to.</p> <p>Create a presentation on operant conditioning and behaviour modification.</p> <p>Possible resource(s):</p> <p>Ferster, C. B., & Skinner, B. F. (1957). Schedules of reinforcement.</p> <p>Skinner, B. F. (1938). The Behavior of organisms: An experimental analysis. New York: Appleton-Century.</p> <p>Skinner, B. F. (1948). Superstition' in the pigeon. Journal of Experimental Psychology, 38, 168-172.</p> <p>Skinner, B. F. (1951). How to teach animals. Freeman.</p> <p>Skinner, B. F. (1953). Science and human behavior. SimonandSchuster.com.</p> <p>Thorndike, E. L. (1905). The elements of</p>

	<p>psychology. New York: A. G. Seiler. Watson, J. B. (1913). Psychology as the Behaviorist views it. <i>Psychological Review</i>, 20, 158–177.</p>
<p>The features of social learning theory</p> <p>Bandura’s original experiment (1961 and 1963) and Bandura (1965) – vicarious reinforcement.</p>	<p>Candidates need to know social learning theory in detail including the terms listed in the specification. The Bandura studies are included here in detail too. Bandura’s work can be used as an example of social learning but it is recommended candidates are exposed to numerous examples of learning through observation or modelling during delivery.</p> <p>Ideas:</p> <ul style="list-style-type: none"> A debate where each group takes one explanation and they have to put forward an argument as to why their explanation is the most important. Doing posters for each explanation including relevant strengths and weaknesses. Drawing up a table for each explanation showing pros and cons for each. Carousel activity with each group completing a short task on one element before moving onto the next (comprehension, short questions, crossword). Comic strip of one of the Bandura studies. Group work to apply vicarious reinforcement to a real world scenario and present to the class. Pictionary – to revise and revisit the all content covered. <p>Possible resources:</p> <ul style="list-style-type: none"> Bandura, A. (1965). Influence of models' reinforcement contingencies on the acquisition of imitative responses. <i>Journal of personality and social psychology</i>, 1(6), 589. Bandura, A., Ross, D. & Ross, S.A. (1961). Transmission of aggression through imitation of aggressive models. <i>Journal of Abnormal and Social Psychology</i>, 63, 575-82. Bandura, A., Ross, D., & Ross, S. A. (1963). Imitation of film-mediated aggressive models. <i>The Journal of Abnormal and Social Psychology</i>, 66(1), 3. Bandura, A. (1977). <i>Social Learning Theory</i>. Englewood Cliffs, NJ: Prentice Hall.

<p>How learning theories explain the acquisition and maintenance of phobias.</p> <p>Treatments for phobias based on theories of learning, including systematic desensitisation and one other.</p>	<p>Candidates are required to understand how each of the learning theories would explain both acquisition and maintenance of phobias. It is recommended that they are exposed to explanations of a variety of phobias during delivery.</p> <p>There is also a requirement to learn at least two treatments for phobias which are based on the learning theories in detail. One of these must be systematic desensitisation. The other can be a choice but must be relevant to the learning theories.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Students investigate interesting phobias and in groups decide how each theory would explain its acquisition and then maintenance. Create a story board or comic sketch of the learning theories explanations of phobias. Students create their own questions to assess their understanding of the treatments. Role play the treatments. Give a summary presentation of the treatments including the strengths and weaknesses. <p>Possible resource(s):</p> <ul style="list-style-type: none"> Lang, P. J., & Lazovik, A. D. (1963). Experimental desensitization of phobia. <i>The Journal of Abnormal and Social Psychology</i>, 66(6), 519. Wolpe, J. (1958). <i>Psychotherapy by reciprocal inhibition</i>. Stanford, CA: Stanford University Press. Wolpe, J. (1964). Behaviour therapy in complex neurotic states. <i>The British Journal of Psychiatry</i>, 110(464), 28-34. T. Ayllon & N.H. Azrin : <i>The Token Economy: a motivational system for therapy and rehabilitation</i>. New York: Appleton-Century-Crofts, 1968. G.L. Paul & R.J. Lentz : <i>Psychosocial treatment of chronic mental patients: milieu versus social-learning programs</i>. Cambridge, MA: Harvard University Press, 1977. A.E. Kazdin: <i>The token economy: a decade later</i>. <i>Journal of Applied Behavior Analysis</i>, 1982, 15, 431-445.
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<p>Classic and contemporary studies.</p>	<p>Watson and Rayner (1920) and one of the contemporary studies from the list of three options are required in detail.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Create a story board or comic sketch of the studies. Students create their own questions to assess their understanding of the studies. Role play the studies. Design a poster that the researcher would have created to show people about the study and raise awareness of the findings. Give a summary presentation of the study including the strengths and weaknesses. <p>Possible resource(s):</p> <p>See above table 4.3.</p>
<p>Key questions.</p>	<p>A suitable key question needs to be covered with all of the AOs prepared for assessment. Please see table 4.4 and information below the table for further guidance.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Create a display of newspaper and media articles relating to the key question. Debate the importance of the key question on one side and the insignificance of the key question on the other. Create a poster/spider diagram linking the key question to the factors/theories/ideas that have been covered. <p>Possible resource(s):</p> <p>See table 4.4.</p>
<p>Practical investigation.</p>	<p>Candidates need to conduct a relevant practical investigation which adheres to the ethical code of conduct (BPS, 2009). You should act as their supervisor and ensure the code of conduct is adhered to throughout and you are able to offer them guidance and support to facilitate them conducting the practical investigation. Candidates can work in groups when collecting and analysing data if they wish but any write up needs to be conducted independently so they grasp an understanding of the practical investigation. Further guidance is in and around table 4.5 below.</p> <p>Ideas:</p> <ul style="list-style-type: none"> Create a flow chart/story board of the practical from start to finish.

	<p>Present your practical including strengths and weaknesses to the class.</p> <p>Submit a write up of your practical to a 'journal' for assessment of worthiness to be published.</p> <p>Possible resource(s): See table 4.5 and associated guidance.</p>
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Suitable examples for key questions:

- Is the influence of role models and celebrities something that causes anorexia?
- Would it be a good idea for airline companies to offer treatment programmes for fear of flying?
- Are the effects of violent video games more harmful in than movies or television?

Table 4:4 showing key questions, links to Learning Theories and possible sources

Key question	Example in Learning Theories	Possible link(s)
Is the influence of role models and celebrities something that causes anorexia?	Social learning theory and the stages can feature here. And perhaps some discussion of biological factors from Biological Psychology. Operant conditioning and reinforcement and rewards.	<p>http://www.dailymail.co.uk/femail/article-2028358/Kate-Middleton-Anger-pro-anorexia-websites-hail-role-model.html – an article for discussion from Mail Online.</p> <p>http://www.walesonline.co.uk/news/wales-news/eating-disorder-study-highlights-need-2043799 – a feature on issues with skinny models from Wales News online.</p> <p>http://eating-disorders.org.uk/information/the-media-eating-disorders/ – National Centre for Eating Disorders.</p>
Would it be a good idea for airline companies to offer treatment programmes for fear of flying?	Link to the chosen treatments for fear of flying, such as systematic desensitisation. That would link to classical conditioning. Treatment can include role models and so	<p>http://www.manchesterairport.co.uk/manweb.nsf/Content/FearofFlying – one of the sites linking to courses and involving the 'business' (there are others).</p> <p>http://www.guidetopsychology.com/fearfly.htm – a feature on the fear of flying.</p>

	social learning can be brought in.	
Are the effects of violent video games more harmful than movies or television?	Links to the Bandura studies in the content and the suggestion using social learning theory that aggression can be learned from seeing aggression. Also the type of role model that might be effective such as similar gender.	<p>http://www.psychologytoday.com/blog/get-psyched/201201/do-violent-video-games-increase-aggression</p> <p>http://www.psychologytoday.com/blog/get-psyched/201201/do-violent-video-games-increase-aggression – considers the harm of video games but without an comparisons.</p> <p>https://www.l493.org/images/PDF/Marriage%20and%20Families/Raising%20Children/Violent%20Television%20and%20%20Interactive%20%20Games.pdf – a discussion on the idea that video games are more active than television and therefore more harmful.</p>

What to consider if you want to choose your own key issue:

Is the issue of relevance in today’s society?

Are you able to explain this issue using research and/or theories from the learning approach?

Can you put forward a for/against argument for this issue?

Are there any other plausible explanations for this issue?

Practical guidance

Specification requirements

Two observations: one qualitative and thematic analysis; and one quantitative data and chi squared analysis. One observation is acceptable if both qualitative and quantitative data are gathered. The observation must relate to something that might have been learned.

Suggested practical investigations

- Gender – slow/fast drivers.
- Gender – helping or polite behaviour like opening doors or greeting customers.
- Gender differences – play (in school playground or park).
- Age – slow/fast drivers (this might be Biological Psychology though).

All could include qualitative data if notes are made, such as more detail about the politeness shown.

Table 4:5 ideas for practical investigations in Learning Theories

Ideas for practical investigations	Explaining the idea more	Issues that might arise
Gender and slow/fast drivers.	<p>Decide with students where the observation will take place.</p> <p>Decide how the information will be recorded – what is slow/fast or is a speed gun needed?</p> <p>Check ethics and carry out risk management.</p>	<p>Covert or overt?</p> <p>Where to observe drivers and how to tally and record data.</p> <p>Whether drivers can be clearly seen.</p> <p>How to assess if speed is slow or fast.</p> <p>What qualitative data to gather if any...</p>
Gender and play in a playground.	<p>Decide with students what types of play you are interested in assessing – aggressive? Co-operative? Team?</p> <p>How long will the observation be for? And where will it take place?</p> <p>Decide on whether observational categories are necessary and what they are.</p> <p>Take care regarding ethics and risk management.</p>	<p>Covert or overt?</p> <p>Parental/guardian consent for observing children.</p> <p>Place and time/length of observation.</p> <p>Categorisation of play.</p>
Gender and whether polite behaviour is shown.	<p>Decide with students what constitutes polite behaviour.</p> <p>Decide where the observation will take place.</p> <p>Decide on whether observational categories are necessary and what they are.</p> <p>Take care regarding ethics and risk management.</p>	<p>Covert or overt?</p> <p>What is categorised as polite?</p> <p>Need for consent?</p> <p>Where behaviour will be observed?</p>

Planning – gender and slow/fast drivers.

Choose an appropriate place to observe people driving, with due regard for your own and their safety, e.g. a bus stop at the side of the road.

Consider all ethical issues.

Decide how you are going to assess who is driving 'fast' and who is driving 'slow'.

Make design decisions about the time of day for the observation and whether there needs to be more than one observer for inter-rater reliability.

Prepare a sheet for recording the data by tallying.

If this observation is to gather qualitative data as well, make decisions about how to make notes and what to focus on (such as comments about their speed and/or about the car or area...).

Carrying out the practical

Carry out the observations and record the data carefully using tallying.

Make notes if you are gathering qualitative data too.

Draw up the table ready for a chi squared test (a two-by-two table).

Analysis of data

Choose an appropriate level of significance and carry out the chi squared test. Focus on issues of degrees of freedom briefly. Check level of measurement and why a chi squared test is appropriate (compare with Spearman's rho, Mann-Whitney U and Wilcoxon). Use graphs and tables in your analysis as appropriate (nominal data do not lend themselves to graphs, but consider the issues).

Analyse the qualitative data using thematic analysis and be ready to discuss the analysis (such as using quotes from your notes).

Drawing conclusions

Write a short paragraph each on the issues of reliability, validity, generalisability, credibility and ethical issues. Use these issues to analyse the strengths and weaknesses of your study.

Writing up a report

Write up the results of the quantitative data using graphs and tables (though see Analysis of data for issues with nominal data and graphs and tables).

Write up the results of the qualitative analysis and thematic analysis.

Quantitative skills guidance

The quantitative skills of particular relevance in this topic area focus on inferential statistics:

- Levels of measurement (not required for AS students in the examination).
- Reasons for choosing a chi squared test (not required for AS students in the examination).
- Comparing observed and critical values to judge significance.
- The chi squared test.

Issues and debates

The issues and debates are covered within the A Level specification, but not the AS so this will need to be noted for co-teaching.

There are various issues and debates and those relevant to each Topic Area will be covered. There is a list of 11, repeated in each topic area and in Topic 9, and for the most part all 11 can be exemplified in every topic area.

For Learning Theories, the issues and debates to be covered are explained on pages 26-30 of component guide 3: psychological skills.

Be ready for the issues and debates to be assessed within the topic content covered in Learning Theories such as psychology as science, reductionism, nature-nurture, issues of social control (the therapies), socially sensitive research (conditioning), and other issues such as ethics (and using animals in experiments)...

Mapping to 2008 specification

Changes from GCE 2008 have been explained on page 2. This section provides a brief overview of those changes, with regard to Component 1: Foundations of Psychology'.

In general, much is the same but specifically GCE 2008 had five approaches (social, cognitive, psychodynamic, biological and learning) and GCE 2015 has four topic areas (Social Psychology, Cognitive Psychology, Biological Psychology (with a touch of psychodynamic) and Learning Theories).

The structure is similar in that each topic area has content, methods, studies, key question and practical investigation. This structure is found throughout Year One and Year Two (except for Topic 9) to facilitate learning.

Table 5:1 comparing Social Psychology in GCE 2015 with GCE 2008

2008 Social Psychology	2015 Social Psychology	Key changes
<p>Studies in detail were Hofling (1966), and a choice of one from Tajfel (1970), Sherif (1954), and Reicher and Haslam (2006).</p> <p>Obedience: Agency theory. Ethical issues in obedience research. Obedience research in a country other than the US.</p> <p>Prejudice: Social identity theory.</p> <p>One key issue from society.</p> <p>Conducting a practical</p>	<p>Studies in detail are Sherif et al. (1954/1961) and a choice of one from Burger (2009), Reicher and Haslam (2006) and Cohrs et al. (2012). So two remain the same.</p> <p>Obedience and Milgram's work (and three named variations) and theories that can apply to obedience (agency theory and social impact theory). Resistance to obedience, including specifically individual differences, situation and culture.</p> <p>Prejudice: social identity theory, realistic conflict theory, factors affecting prejudice, including individual differences, situation and culture.</p> <p>One key question relating to society.</p> <p>Conducting and writing up a practical – not an interview this time, must</p>	<p>What new material has been included to replace material that has been removed?</p> <p>Social impact theory as an explanation of obedience. Calculations of measures of central tendency and measures of dispersion. Contemporary studies: Burger (2009), Reicher and Haslam (2006), Cohrs et al. (2012).</p> <p>GCE level: 'Issues and debates are done differently and it is shown how they are embedded in the specification - by listing them in each topic area. Discussion about differences and similarities in issues and debates between 2008 and 2015 is given in Component Guide 3: Psychological Skills (pages 25–30).</p> <p>What has been removed?</p> <p>Tajfel (1970). Hofling (1966). One study of obedience in</p>

survey (questionnaire or interview).	be a questionnaire.	a country other than the USA. The use of the interview in the practical.
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Table 5:2 comparing Cognitive Psychology in GCE 2015 with GCE 2008

2008 Cognitive Psychology	2015 Cognitive Psychology	Key changes
<p>Levels of processing framework for memory and one other theory or model of memory. Cue dependant theory of forgetting and one other theory of forgetting.</p> <p>Godden and Baddeley (1975) + one other study (from a choice of three) of memory or forgetting.</p> <p>Experiments.</p> <p>One key issue from society.</p> <p>Conducting a practical – survey (interview or questionnaire).</p>	<p>Multi store model of memory. Working memory model. Explanation of long-term memory (episodic and semantic). Reconstructive memory, including schema theory.</p> <p>Case study of brain damaged patients (HM).</p> <p>Baddeley 1966b + one contemporary study (from a choice of three) of memory.</p> <p>Experiments.</p> <p>Quantitative data analysis including inferential statistics.</p> <p>One key question from society.</p> <p>Conducting and writing up a practical investigation – a questionnaire.</p>	<p>What has been included? Explanation of long-term memory (episodic, semantic). Reconstructive memory required now – 4 models of memory not 2.</p> <p>Case studies of brain damaged patients.</p> <p>Quantitative skills: Calculating measures of central tendency and measures of dispersion. Normal and skewed distribution. Statistical test choices. Levels of significant. Inferring significance. Type 1 and type 2 errors.</p> <p>Issues and debates specifically added.</p> <p>Individual differences and developmental psychology highlighted.</p> <p>What has been removed? Levels of processing. 'One other theory of forgetting'. Godden and Baddeley (1975). The 'choice of one study' is different. Naturalistic experiments.</p>

Table 5:3 comparing Biological Psychology in GCE 2015 with GCE 2008

2008 Biological Psychology	2015 Biological Psychology	Key changes
<p>Focus on gender:</p> <p>Central nervous system and neurotransmitters in human behaviour.</p> <p>Role of genes in behaviour.</p> <p>Gender development:</p> <p>The role of genes, hormones, and brain lateralisation.</p> <p>Evaluate the influence of biological factors on gender development including comparison with explanations.</p> <p>Issues with the use of animals and methodology.</p> <p>Twin and adoption studies PET and MRI scans.</p> <p>Studies: Money (1975) and one from a choice of three.</p> <p>One key issue from society.</p> <p>Conducting a practical – test of difference.</p>	<p>Focus on aggression:</p> <p>Central nervous system and neurotransmitters.</p> <p>Brain structure.</p> <p>Evolution.</p> <p>Hormones.</p> <p>Contrast a biological approach with Freud’s psychodynamic approach (limited).</p> <p>The use of correlations in research.</p> <p>Twin and adoption studies.</p> <p>Brain scanning techniques (CAT, PET, fMRI).</p> <p>Studies: Raine et al. (1997) and one contemporary study from a choice of three.</p> <p>One key question from society.</p> <p>Conducting and writing up a practical investigation that is a correlation.</p>	<p>What has been included?</p> <p>Aggression as a the key focus.</p> <p>Evolution.</p> <p>Hormones.</p> <p>How drugs work at the synapse (recreational).</p> <p>Raine et al. (1997) is now the main study not a choice.</p> <p>Contemporary studies are different.</p> <p>CAT and fMRI scans.</p> <p>What has been removed?</p> <p>The role of genes in behaviour, though there is the idea of evolution.</p> <p>Brain lateralisation.</p> <p>Gender as a topic focus, now it is aggression.</p> <p>MRI scans, now we have fMRI scanning.</p> <p>Comparison with the learning approach.</p> <p>The use of animals in research – which is in learning theories.</p> <p>Money (1975) is replaced as the main study.</p>

Table 5:4 comparing Learning Theories in GCE 2015 with GCE 2008

2008 Learning Theory	2015 Learning Theories	Key changes
<p>Classical conditioning. Operant conditioning.</p> <p>Social learning theory.</p> <p>Learning theory to explain gender development.</p> <p>Comparison of gender explanation with biological and psychodynamic approach.</p> <p>Observation and laboratory experiment as a research method using animals too.</p> <p>Ethical guidelines when using humans and animals.</p> <p>Chi squared test.</p> <p>Studies: Bandura et al (1961). One other study from a choice of three.</p> <p>One key issue from society.</p> <p>Conducting a practical – observation.</p>	<p>Classical conditioning. Operant conditioning. Behaviour modification through shaping behaviour. Schedules of reinforcement. Social learning theory and stages.</p> <p>Explanation and treatment of phobias using learning theory principles.</p> <p>Observation and content analysis.</p> <p>Use of animals in lab experiments and ethics.</p> <p>Chi squared test.</p> <p>Studies: Watson and Rayner (1920). One contemporary study from a choice of three.</p> <p>One key question from society.</p> <p>Conducting and writing up a practical – an observation.</p>	<p>What has been included? Behaviour modification and focus on phobias.</p> <p>The three Bandura studies (though one was in GCE 2008 but not as content).</p> <p>Watson and Rayner (1920) as a key study instead of a choice, and different contemporary studies.</p> <p>Psychology as a science, replicability, reductionism, empiricism and other issues.</p> <p>Content analysis has been added.</p> <p>What has been removed? Ethical guidelines of using humans, though they are elsewhere.</p> <p>Gender development and comparison with other approaches.</p>

Assessment overview

The Pearson Edexcel Level 3 GCE A Level in Psychology is structured into nine topic areas. Topics 1-4 focus on the 4 topic areas which have helped to lay the foundations of modern psychological understanding. Topics 5-8 focus on how our understanding of psychology is applied today. The final topic covers the psychological skills which psychologists use when conducting research.

The Pearson Edexcel Level 3 GCE A Level in Psychology consists of three externally examined papers.

This Component Guide focuses on Paper 1: Foundations in Psychology.

Paper 1: Examination		*Paper code: 9PS0/01
Title: Foundations in Psychology		
<ul style="list-style-type: none"> Externally assessed 	35% of the total qualification	
<p>Overview of content</p> <ul style="list-style-type: none"> Social Psychology Cognitive Psychology Biological Psychology Learning Theories. 		
<p>Overview of assessment</p> <ul style="list-style-type: none"> 2-hour written examination, worth 90 marks Students must answer all questions from two sections Section A has 70 marks comprised of a mixture of question types, covering the topic areas of Social, Cognitive, Biological Psychology and Learning Theories Section B has 20 marks comprised of two extended response questions, covering the issues and debates in psychology. 		

*See the specification for description of this code and all other codes relevant to this qualification.

Note there are no multiple choice questions in the AS or the A level in GCE 2015 whereas there were some multiple choice questions in GCE 2008. The rationale is that the entire two-year course should be assessed in three exams that are not too long but which offer the student the opportunity let the examiner know what they have learned. The rationale for multiple choice questions (such as having Paper 1 in January of the first year) in GCE 2008 is no longer valid.

Note that there are short answer and extended answer questions. Extended answer questions tend to have levels marking and short answer questions have point based marking. The Specimen Assessment Materials (SAMs) illustrate the types of questions to expect and the mark schemes show the marking strategies.

As in GCE 2008, there will be a need for good and clear communication in the answers, so that candidates show knowledge with understanding (AO1) and so that they can both apply (AO2) and evaluate/assess (AO3) material competently.