OCR
RECOGNISING ACHIEVEMENT

GCE

# Psychology

Advanced Subsidiary GCE

Unit **G541:** Psychological Investigations

# Mark Scheme for June 2012

Oxford Cambridge and RSA Examinations

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, OCR Nationals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

© OCR 2012

Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

## Annotations

| Annotation | Meaning |
|---|---|
| | Attempts evaluation |
| | Benefit of doubt |
| | Context |
| | Cross |
| | Evaluation |
| | Extendable horizontal line |
| | Expandable horizontal wavy line |
| | Significant amount of material which doesn't answer the question |
| | Not answered question |
| | Tick |
| | Development of point |
| | Omission mark |
| | Unclear |
| | Good use of research/supporting evidence |

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>1</td><td>(a)</td><td></td><td>Ethical issues could include: consent (although a bar is a public place); deception (observers posing as customers in the bar when really undertaking research); harm (potentially if become aware of being looked at); protection of participants (invasion of privacy, intrusion on personal interactions etc).<br><br><table><tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr><tr><td>1 mark</td><td>Ethical issue clearly identified, but in general</td><td>OR attempt to identify ethical issue in context but could be clearer</td></tr><tr><td>2 marks</td><td colspan="2">Ethical issue clearly identified in context</td></tr></table></td><td>2</td><td>Context = bar (pub/café), couples, postural echoing / imitation of behaviour (to inc any of the listed behaviours).</td></tr>
<tr><td></td><td>(b)</td><td></td><td>For example, Consent could have been dealt with by placing a poster in the bar informing participants of the general nature of the research and that by staying in the bar it would be taken that they were Okay for this to happen.<br><br><table><tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr><tr><td>1 mark</td><td>General attempt to suggest how the ethical issue could be dealt with</td><td>OR attempt to suggest how the ethical issue could be dealt with in context but could be clearer</td></tr><tr><td>2 marks</td><td colspan="2">Clear suggestion of how the ethical issue could be dealt with in context</td></tr></table></td><td>2</td><td>Context = bar (pub/café), couples, postural echoing / imitation of behaviour (to inc any of the listed behaviours).<br><br>Accept comments relating to ways to deal with any appropriate ethical issue raised.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>2</td><td>(a)</td><td></td><td>Inter-rater reliability in observational research refers to the extent to which different observers are able to observe and rate (or code) the same behaviour in the same way.<br><table><tr><td>0 marks</td><td>The candidate has not provided any creditworthy information</td></tr><tr><td>1 mark</td><td>General attempt to describe inter-rater reliability (e.g. simply stating that ‘it refers to consistency’, or it is when two or more observers compare their results etc). Lacks clarity.</td></tr><tr><td>2 marks</td><td>Clear description of inter-rater reliability</td></tr></table></td><td>2</td><td>Note – just stating that inter-rater reliability is when two (or more) observers compare their data / results is not, on it’s own enough for full marks (as this only provides a way to check / assess the extent of inter-rater reliability). Award 1 mark here.<br><br>If candidate simply states ‘having two or more observers’ = zero.<br><br>Simply stating ‘repeating the study to check for same/similar results’ = zero.</td></tr>
<tr><td></td><td>(b)</td><td></td><td>Researchers could meet prior to the study to establish and agree the behavioural categories to look out for and the criteria for acknowledging if exhibited or not. A pilot study could be used to assess the ease of use of the coding scheme and identify any problems so it can be amended.<br><br><table><tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr><tr><td>1 mark</td><td colspan="2">Brief response lacking detail and not in the context of the research outlined in the source material</td></tr><tr><td>2 marks</td><td>Appropriate and detailed response, but not in the context of the research outlined in the source material</td><td>OR brief response that is lacking detail that is in the context of the research outlined in the source material</td></tr><tr><td>3 marks</td><td colspan="2">Response is made that lacks some clarity, but is outlined in the context of the research outlined in the source material</td></tr><tr><td>4 marks</td><td colspan="2">Appropriate, clear and detailed response outlined in the context of the research outlined in the source material</td></tr></table></td><td>4</td><td>Context = bar (pub/café), couples, postural echoing / imitation of behaviour (to inc any of the listed behaviours).<br><br>Note – having more observers does not in itself increase inter-rater reliability (cap at one mark whether in context or not). However, if other creditworthy things are included mark appropriately.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>3</td><td></td><td></td><td>Accept any two findings. From, for example: folding arms was the most common behaviour engaged in by each couple; couples only touched their nose at the same time on 3 occasions etc.<br><br>2 marks for each finding.<br><br>
<table>
<tr><td>0 marks</td><td>The candidate has not provided any creditworthy information</td></tr>
<tr><td>1 mark</td><td>The candidate has stated a finding, but this lacks clarity, or is not in the context of the research outlined in the source material</td></tr>
<tr><td>2 marks</td><td>The candidate has stated a clear finding and this is in the context of the research outlined in the source material</td></tr>
</table>
</td><td>4</td><td>Note – it is not appropriate to have mean, median or range of values of the nominal data presented in the table (only mode is acceptable).<br><br>Accept total behaviours observed = 45.<br><br>Note – frequency counts not needed for full marks (e.g. acceptable to just say ‘folding arms was the most observed behaviour’).</td></tr>
</table>

| Number of times couples performed behaviours at the same time as each other | | | | | |
|---|---|---|---|---|---|
| Fold arms together | Cross legs | Rest head on hand | Drink at same time | Touch hair | Touch nose |
| 12 | 8 | 10 | 7 | 5 | 3 |

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>4</td><td></td><td></td><td>
Strengths include: higher ecological validity as in a natural setting where couples meet and socialize; overall validity could be higher as participants likely to be unaware they are being monitored so act more naturally.<br>
Weaknesses include: problems recording behaviour accurately if bar gets busy; problems interpreting the actions of the couples and if they fit the behavioural categories listed; lack of validity if participants become aware of being monitored, especially when interacting socially (demand characteristics); ethical issues (e.g. invasion of privacy when couples out socializing) etc.<br><br>
3 marks for strength, 3 marks for weakness.<br><br>
<table>
<tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr>
<tr><td>1 mark</td><td colspan="2">Brief attempt to outline strength/weakness but lacks clarity/detail (e.g. strength = high EV, weakness = ethics) and not in context</td></tr>
<tr><td>2 marks</td><td>Clear/detailed outline of strength/weakness but not in context of the research outlined in the source material</td><td>OR strength/weakness lacking in clarity/detail, but attempt to discuss in context</td></tr>
<tr><td>3 marks</td><td colspan="2">Clear/detailed outline of strength/weakness discussed in context of the research outlined in the source material</td></tr>
</table>
</td><td>6</td><td>
Context = bar (pub/café), couples, postural echoing / imitation of behaviour (to include any of the listed behaviours).<br><br>
Accept ethics (e.g. invasion of privacy etc) here.<br><br>
Accept strengths related to data collected in this study (e.g. quantitative data, event sampling).<br><br>
Accept reference to inter-rater reliability, but must be fully explained/justified.<br><br>
Reference to reliability without making clear how/why it would be a strength is not creditworthy (e.g. ‘a strength of this observation is that it is replicable’).
</td></tr>
</table>

**Section B**

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>5</td><td></td><td></td><td>Strengths could include: young age group more likely to use mobile phone for texting; easier to obtain sample as just from one class in one college etc.<br>Weaknesses could include: unrepresentative sample; limited range of ages and therefore possibly personality types; all from London; all from just one class in one college etc.<br><br>3 marks for strength, 3 marks for weakness.<br><br>
<table>
<tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr>
<tr><td>1 mark</td><td colspan="2">Attempt to outline strength/weakness</td></tr>
<tr><td>2 marks</td><td>Strength/weakness clearly outlined but not in context</td><td>OR strength/weakness lacks some clarity/detail, but is in context</td></tr>
<tr><td>3 marks</td><td colspan="2">Strength/weakness clearly outlined in context</td></tr>
</table>
</td><td>6</td><td>Context = personality, text message(s) and mobile phones.<br><br>Reference to representative age range is not creditworthy as a strength.<br><br>Reference to sampling method must relate to a strength/weakness of the sample it produces in this study.<br><br>Accept reference to size of sample as either a strength / or weakness providing it is justified.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>6</td><td></td><td></td><td>For example … There will be (or is) a correlation between introversion/extroversion rating and number of words in mobile phone text messages.<br><br>
<table>
<tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr>
<tr><td>1 mark</td><td colspan="2">The candidate has written an appropriate alternate hypothesis but has simply stated ‘there will be/is a correlation’. There is no indication of either of the measured variables</td></tr>
<tr><td>2 marks</td><td colspan="2">The candidate has written an appropriate alternate hypothesis but has only referred to one variable</td></tr>
<tr><td>3 marks</td><td>The candidate has written an alternate hypothesis referring to both variables, but there is a lack of clarity about one of the measured variables or both</td><td>OR both variables clearly referred to but a general lack of clarity of the way the hypothesis is stated</td></tr>
<tr><td>4 marks</td><td colspan="2">The candidate has written a clearly stated appropriate alternate hypothesis referring to both of the measured variables</td></tr>
</table></td><td>4</td><td>Note – simply referring to ‘personality’ instead of introversion / extroversion is not clear enough to credit reference to this variable (simply stating ‘personality’ could mean aggression, or humour personality traits etc).<br><br>Use of the word ‘difference’ or ‘affects / ‘effects’ = zero marks.<br><br>Any reference to DV, ‘link’ or ‘association’ = zero.<br><br>Accept positive or negative correlations.<br><br>If both an alternate and null hypothesis is presented and it is not made clear which is which then = zero.<br><br>The variables do not have to be fully operationalized for maximum marks.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>7</td><td></td><td></td><td>Strengths may include: quantifiable scale to allow ‘personality’ to be expressed numerically, and easy numerical comparisons across different people; simple, easy to understand scale, with clear definitions at each end etc. Weaknesses may include: subjective interpretation of the scale; scale may be too narrow (just 1 to 10); does not allow full expression of what an individuals ‘personality’ is really like etc.<br><br>3 marks for strength, 3 marks for weakness.<br><br>
<table>
<tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr>
<tr><td>1 mark</td><td colspan="2">Attempt to explain strength/weakness of the way ‘personality’ was measured, but lacks clarity</td></tr>
<tr><td>2 marks</td><td>Clearly explained strength/weakness of the way ‘personality’ was measured but not in the context of the information outlined in the source material</td><td>OR attempt to explain strength/weakness of the way ‘personality’ was measured in context</td></tr>
<tr><td>3 marks</td><td colspan="2">Clearly explained strength/weakness of the way ‘personality’ was measured in the context of the information outlined in the source material</td></tr>
</table>
</td><td>6</td><td>Context = any aspect of personality (e.g. introversion/extroversion, outgoing, shy etc).</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>8</td><td></td><td></td><td>A negative correlation is where, as the values of one variable increase, the values of the other tend to decrease, although not necessarily at the same rate<br><br><table><tr><td>0 marks</td><td>The candidate has not provided any creditworthy information</td></tr><tr><td>1 mark</td><td>Attempt to explain what a negative correlation is, but lacks clarity</td></tr><tr><td>2 marks</td><td>Clear explanation of what a negative correlation is</td></tr></table></td><td>2</td><td>Accept for one mark an appropriate sketch of a negative correlation presented on it’s own.<br><br>Any reference to DV = zero.<br><br>Any reference to effect / affect of one variable on another = zero.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>9</td><td></td><td></td><td>A scattergraph is a visual display of two variables expressed numerically, one on each axis and indicated at the intersection of the two values.<br><br><table><tr><td>0 marks</td><td>The candidate has not provided any creditworthy information</td></tr><tr><td>1 mark</td><td>Attempt to explain how data is presented in a scattergraph</td></tr><tr><td>2 marks</td><td>Clear explanation of how data is presented in a scattergraph</td></tr></table></td><td>2</td><td>Reference to a dependent variable = zero.<br><br>Any reference to effect / affect of one variable on another = zero.<br><br>Accept sketches of scattergraphs used to help illustrate what is meant (if data or labels included there should be no reference to a DV, if so = zero).</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>10</td><td></td><td></td><td>
Aggression could be measured in many ways, for example: on an arbitrary scale 1 (not aggressive) to 10 very aggressive; how participants respond in a combat game (shoot to kill etc) after exposure to the films; level of punishment suggested for hypothetical crimes committed by a person; observation of aggressive behaviour after exposure to film (e.g. when interacting with others); physiological measures of aggression (heart-rate or blood pressure changes etc)
<table>
<tr><td>0 marks</td><td colspan="3">The candidate has not provided any creditworthy information</td></tr>
<tr><td>1-2 marks</td><td>Brief and/or unclear attempt to describe how aggression could be measured with no evaluation</td><td colspan="2">OR evaluation of a way to measure aggression that has not been described</td></tr>
<tr><td>3-4 marks</td><td>Clear description of how aggression could be measured, but minor omissions prevent full replication. No evaluation</td><td colspan="2">OR attempt to both describe how aggression could be measured and evaluate it, but lacking clarity/detail</td></tr>
<tr><td>5 marks</td><td>Clear description of how aggression could be measured that would allow full replication but no evaluation</td><td>OR Clear description of how aggression could be measured, but minor omissions prevent full replication with attempt at evaluation, but unclear</td><td>OR attempt to describe how aggression could be measured with clear and detailed evaluation</td></tr>
<tr><td>6-7 marks</td><td>Clear description of how aggression could be measured that would allow full replication and attempt at evaluation</td><td colspan="2">OR Clear description of how aggression could be measured, but minor omissions prevent full replication with clear and detailed evaluation</td></tr>
<tr><td>8-9 marks</td><td colspan="3">Clear description of how aggression could be measured that would allow full replication and clear and detailed evaluation with reference to one issue</td></tr>
<tr><td>10 marks</td><td colspan="3">Clear description of how aggression could be measured that would allow full replication and clear and detailed evaluation with reference to two or more issues</td></tr>
</table>
</td><td>10</td><td>
Note – the response here must be focused on the actual measure of the DV. Details related to peripheral things, such as sample / sampling are not creditworthy here.<br><br>
DV can be either quantitative or qualitative<br><br>
Examples of ‘minor omissions’ ….<br><br>
• If unclear who is doing the rating and how (e.g. how recorded)<br><br>
• If ends of rating scale not identified<br><br>
• No list of categories for observed aggressive behaviours<br><br>
If more than one technique to measure aggression is presented it must be clear how they are combined for it to be fully replicable.
</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>11</td><td></td><td></td><td>An independent measures design is where participants only take part in one condition of the experiment. A repeated measures design is where participants take part in both (or all) conditions of an experiment.<br><br>
<table>
<tr><td>0 marks</td><td colspan="3">The candidate has not provided any creditworthy information</td></tr>
<tr><td>1 mark</td><td colspan="2">Brief, unclear outline of what is involved in an independent measures design only</td><td>OR Brief, unclear outline of what is involved in a repeated measures design only</td></tr>
<tr><td>2 marks</td><td>Clear outline of what is involved in an independent measures design only</td><td>OR clear outline of what is involved in a repeated measures design only</td><td>OR brief unclear outline of what is involved in both independent and repeated measures design</td></tr>
<tr><td>3 marks</td><td colspan="2">Clear outline of what is involved in an independent measures design, but unclear about a repeated measures design</td><td>OR Clear outline of what is involved in a repeated measures design, but unclear about an independent measures design</td></tr>
<tr><td>4 marks</td><td colspan="3">Clear outline of what is involved in both an independent measures design and a repeated measures design</td></tr>
</table></td><td>4</td><td>Note – context is not required for full marks here (but may be used and is creditworthy).<br><br>Reference to ‘task’ or ‘parts’ or ‘different experiments’ cap at 1 mark for the design referred to. Reference to ‘conditions’ is required for full marks.</td></tr>
</table>

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>Marks</th><th>Guidance</th></tr>
<tr><td>12</td><td></td><td></td><td>Strengths include: no individual differences as in independent measures, existing levels of aggression are controlled for; fewer participants needed.<br><br>Weaknesses include: carry-over effects possible (e.g. performance in second condition may be affected by fatigue or practice from participation in the first condition);<br><br>3 marks for strength, 3 marks for weakness.<br><br>
<table>
<tr><td>0 marks</td><td colspan="2">The candidate has not provided any creditworthy information</td></tr>
<tr><td>1 mark</td><td colspan="2">Attempt to describe strength/weakness, but lacks clarity and not in the context of the research outlined in the source material</td></tr>
<tr><td>2 marks</td><td>Clear and detailed outline of strength/weakness, but in general - not in the context of the research outlined in the source material</td><td>OR attempt to describe strength / weakness in context</td></tr>
<tr><td>3 marks</td><td colspan="2">Clear and detailed outline of strength/weakness in the context of the material presented in the source material</td></tr>
</table>
</td><td>6</td><td>Context = aggression, violence, film etc</td></tr>
</table>

**OCR (Oxford Cambridge and RSA Examinations)**
**1 Hills Road**
**Cambridge**
**CB1 2EU**

**OCR Customer Contact Centre**

**Education and Learning**
Telephone: 01223 553998
Facsimile: 01223 552627
Email: general.qualifications@ocr.org.uk

**www.ocr.org.uk**

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

**Oxford Cambridge and RSA Examinations**
**is a Company Limited by Guarantee**
**Registered in England**
**Registered Office; 1 Hills Road, Cambridge, CB1 2EU**
**Registered Company Number: 3484466**
**OCR is an exempt Charity**

**OCR (Oxford Cambridge and RSA Examinations)**
**Head office**
**Telephone: 01223 552552**
**Facsimile: 01223 552553**

**© OCR 2012**