GCE

Psychology

Advanced Subsidiary GCE

Unit **G541:** Psychological Investigations

Mark Scheme for January 2011

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G541   **Mark Scheme**   **January 2011**

Section A

Psychologists wanted to investigate why we don't laugh when we tickle ourselves. One idea is that it is a social act that is out of our control and must be done to us by another person. To investigate this, participants had the sole of their feet tickled by another person at any time during a 30 second period. Later on the same participants had to tickle themselves. They put their feet on a tickling machine (a feather on a rotating turntable) at any time they chose during a 30 second period. The volume of laughter was recorded in decibels.

1 (a) Identify the experimental design used in this study. [2]		
Marks	**Answer**	**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information	The experimental design used is a 'repeated measures design' (RMD). Also accept the term 'within subjects design'.
1 mark	Attempt to identify the experimental design (eg simply saying 'repeated')	
2 marks	Experimental design clearly identified	Stating 'lab expt = zero Stating 'same subjects design' = 1 Simply stating RMD = 1 Only naming design is required (description, instead of naming eg *using same pps* = zero)

1 (b) Outline <u>one</u> strength and <u>one</u> weakness of using this experimental design in this study. [6]		
Strengths include: control of individual differences in response to being tickled in general; provides a better (purer) test of the effect of the IV on the DV; fewer participants needed; Weaknesses include: possible order (or carry-over) effects from having participated in one condition already; insight into aim of research increasing demand characteristics. Also accept more time consuming for participants.		
Marks	**Answer**	**Additional Guidance**
3 marks for strength, 3 marks for weakness		
0 marks	The candidate has not provided any creditworthy information	Q1(a) can be incorrect (stating independent measures design), but receive full credit here if comments relate to correct design (repeated measures). Context = reference to laughter or tickling, 'emotion', feet
1 mark	Attempt to describe strength/weakness, but lacks clarity/detail and not in the context of the research outlined in the source material (eg strength/weakness identified but not *explained*)	
2 marks	Clear and detailed outline of strength/weakness, but in general – not in the context of the research outlined in the source material **OR** Attempt to describe strength/weakness, but lacks clarity, but is in context of the research outlined in the source material	
3 marks	Clear and detailed outline of strength/weakness in the context of the material presented in the source material	

2. Identify the independent variable (IV) and dependent variable (DV) in this study. [2]		
The IV is the method of being tickled (by a real person or a machine). The DV is the response to being tickled – laughter (assessed in decibels).		
Marks	**Answer**	**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information	-Accept for DV 'laughter' or more generally 'response to being tickled'
1 mark	One variable correctly identified	-Zero if IV and DV not labelled/differentiated, or referred to incorrectly
2 marks	Both variables correctly identified	

| 3. Describe and evaluate <u>one</u> other way to measure the dependent variable (DV) in this study. [10]			
Possible suggestions here include: a coding system to record behavioural response to assess type of laughter exhibited; recording the duration of laughter; things said whilst laughing; a self-report rating scale obtained after tickling etc. Evaluation issues will be dependent upon the alternative measurement method suggested, but could include problems associated with behavioural coding schemes (reliability etc), difficulties quantifying verbalisations whilst laughing and accuracy of self-report measures used.			
Marks	**Answer**		**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information		-Evaluation issues must clearly be related to the measurement of the DV
1-2 marks	Minimal information – attempt to describe a way to measure the DV only – replication not possible	**OR** attempt to evaluate a way to measure the DV that has not been described (ie attempted evaluation only)	-Context = reaction/response to being tickled
3-4 marks	Detailed description of a way to measure the DV that would allow full replication, but no evaluation. If only minor omissions 3 marks	**OR** attempt to describe a way to measure the DV, but with some omissions that make replication difficult and attempt to evaluate it	-Detailed evaluation can be about just one point
5-6 marks	Detailed description of a way to measure the DV that would allow full replication, and attempt at evaluation	**OR** attempt to describe a way to measure the DV, with just minor omissions that make replication difficult, but detailed evaluation not in context (6 marks = evaluation attempted in context)	-Simply stating *'time how long they laugh for'* (with no evaluation = 2 just marks)
7-8 marks	Detailed description of a way to measure the DV that would allow full replication and clear, detailed evaluation but not in context	**OR** attempt to describe a way to measure the DV, with just minor omissions that make replication difficult, but detailed evaluation mainly in context	-Changes to the nature/theme of the study, such as changes to the IV – eg recording laughter to showing comic video clips, are not creditworthy
9-10 marks	For 9 marks – detailed description of a way to measure the DV that would allow replication and clear, detailed evaluation with reference to at least one evaluation issue in context For 10 marks - Detailed description of a way to measure the DV that would allow replication and clear, detailed evaluation with reference to two or more appropriate evaluation issues in context		

Section B

A psychologist conducted a correlation study to investigate the relationship between the number of friends people claim to have on internet social networking sites and the number of times they go out socialising each month. The data was obtained from students in a psychology class who left the classroom one at time to provide details to a researcher sitting outside.

The findings from the study are presented in the scattergraph below.
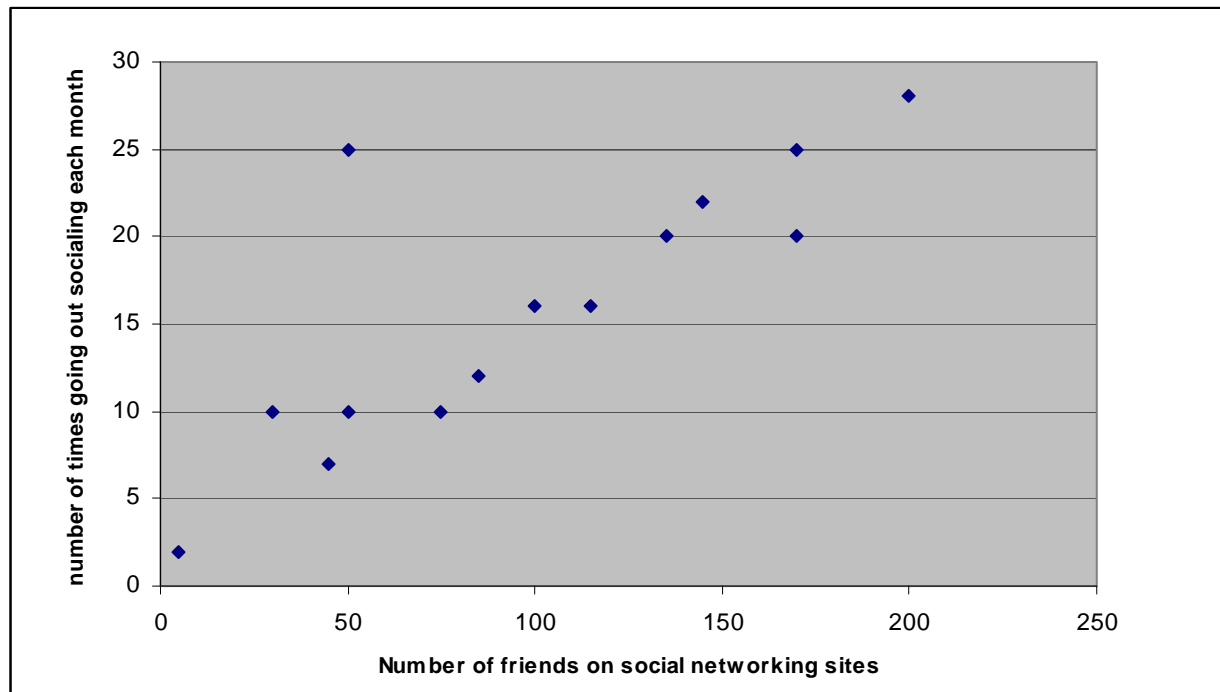
4 (a) How many participants was data collected from in this study and how do you know this. [2]

Data was collected from fourteen participants. This can be ascertained simply by counting the total number of entries on the scattergraph (once).

Marks	Answer		Additional Guidance
0 marks	The candidate has not provided any creditworthy information		Miscalculation of number, but correct justification of how this is known = 1
1 mark	Number of participants correctly identified but no justification of how this is known	**OR** only a justification of how the number of participants can be ascertained from counting the entries on the scattergraph (without actually stating the number)	
2 marks	Number of participants correctly identified and a clear justification of how this is known		

4 (b) Name and briefly describe the sampling method in this study. [2]

The sampling method used was opportunity sampling.

Marks	Answer		Additional Guidance
0 marks	The candidate has not provided any creditworthy information		-Context = reference to class, students, social networking etc
1 mark	Sampling method correctly named, but no description of how it was used	**OR** description of how opportunity sampling used in the study but not actually named	-Accept (appropriate/recognised) alternative names for opportunity sampling, such as *availability sampling*
2 marks	Sampling method correctly named and described in context		

4 (c) Identify <u>one</u> strength and <u>one</u> weakness of using this sampling method for this study. [4]

Strengths include: quick, easy, inexpensive and convenient as all the participants were gathered in one place at the same time.
Weaknesses include: lack of representation of target population (ie people who use social networking sites) and corresponding generalisation problems; limited (in number and variety etc) to who is in the class on the day of the study.

Marks	Answer		Additional Guidance
2 marks for strength, 2 marks for weakness			
0 marks	The candidate has not provided any creditworthy information		-Context = reference to class (including number of students in it, which is known from the scattergraph entries), students, pupils, learners, social networking etc
1 mark	Strength/weakness clearly identified but not in context	**OR** attempt to identify strength/weakness that is in context but lacks clarity	
2 marks	Strength/weakness clearly identified and in context		

5 (a) From the scattergraph presented on the previous page, what is the mode for 'the number of times going out socialising each month' and how do you know this? [2]		
The mode for 'the number of times going out socializing each month' is ten, because it is the most frequent number of times (3) that appears on the vertical axis, displaying the number of times people 'go out socializing each month'.		
Marks	**Answer**	**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information	
1 mark	Mode correctly identified but no explanation of how this is known	**OR** explanation of how the mode is known without actually stating what it is
2 marks	Mode correctly identified with clear explanation of how this is known	

5 (b) Outline two other findings from the scattergraph. [4]		
Findings could include positive correlation between number of friends on social networking sites and number of times going out socialising each month. There is an anomalous result (someone who goes out a lot each month doesn't have many friends on social networking sites). Median for number of times going out =16		
Marks	**Answer**	**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information	-Findings can be cited numerically or verbally
1 mark	The candidate has attempted to outline a finding, but this lacks clarity, or is not in the context of the research presented in the source material.	-Stating the same finding in different ways can only be credited once (eg stating *there is a positive correlation between number of times going out each month and number of friends on social networking sites* is the same as … *as the number of friends increases so does the number of times going out each month,* so can not be credited again. Also stating *the more friends a person has on social networking sites the more often they go out socializing* is the same as saying *the less friends a person has on social networking sites the less often they go out socializing*, so can not be credited twice
2 marks	The candidate has clearly outlined a finding and this is in the context of the research presented in the source material.	-Context = friends, socialising, social networking sites
		-Example 1 mark response … *there is a positive correlation between the variables*

6 (a) What is qualitative data? [2]		
Qualitative data is data that is rich, detailed and descriptive. Data left in it's original form of meaning, such as speech or text. It is the recording of something in terms of it's 'kind' (nature), rather than 'degree' (or amount).		
Marks	**Answer**	**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information	-No credit for *just* describing what qualitative data is not (eg *it is not numbers*) -Simply stating 'words' = 1
1 mark	Attempt to describe qualitative data, but lacks some clarity	
2 marks	Clear and detailed description of qualitative data	

6 (b) Suggest <u>two</u> examples of qualitative data that could have been collected in this study. [4]			
Examples of qualitative data here could include: information about what type of people the friends on Facebook are like (eg occupational status, personality etc); the type of places people go out to when socializing; what people do when they go out socializing etc			
Marks	**Answer**		**Additional Guidance**
2 marks for each example			
0 marks	The candidate has not provided any creditworthy information		-Do not credit responses that *just* name a method that could be used to collect qualitative data (eg could use an interview) -Words just in the form of pre-coded responses (eg yes/no) are not acceptable as examples of qualitative data -If just definition in general of what qualitative data is (as asked for in Q6a), eg just saying *'words'*, then no credit
1 mark	Suggestion clearly outlined but not in the context of the research presented in the source material	**OR** suggestion attempted, but lacks clarity, but is in the context of the research presented in the source material	
2 marks	Suggestion clearly outlined in the context of the research presented in the source material		

Section C

Look at me! A group of psychologists are interested in conducting an observation study of the behaviour of people as they walk past a shop window to see if they pay any attention to looking at their own reflection and if so what they do.

7 (a) Describe an appropriate procedure that could be used in this study. [6]		
For full marks the description of the procedure should allow replication and include information about **what** is being observed and **how** this is being done.		
Marks	**Answer**	**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information	-Major omissions is details of the 'what' and 'how' exactly the observation would be conducted
1-2 marks	Minimal description of procedure with major omissions that does not allow replication	
3-4 marks	Description of procedure with minor omissions that make a full and exact replication difficult (eg the duration of the observation period is unknown or some of the behavioural categories are unclear)	-Minor omissions = the 'when', 'where' and 'who'
5-6 marks	Detailed description of procedure that would allow a full and exact replication. 5 marks = replicable, but some lack of clarity (eg the 'who' is not explicit)	-Note that it is not always necessary to have full details of behavioural categories for maximum marks to be awarded (eg some candidates may suggest procedures that generate/collect qualitative responses, such as simply whether or not someone stops and looks at their reflection, and if so what they do when they stop to look at their reflection

7 (b) Evaluate the reliability and validity of carrying out the study in this way. [6]		
For full marks the evaluation of the reliability and validity must be in the context of the procedure in the previous question (7a)		
Marks	**Answer**	**Additional Guidance**
3 marks for evaluation of reliability, 3 marks for evaluation of the validity of the study		
0 marks	The candidate has not provided any creditworthy information	**-Reliability** refers to issues concerned with the extent to which the observation could be conducted again in the same/similar way, and not whether the results obtained would be the same if repeated. Examples could include reference to the extent to which the coding scheme is clear and observers trained to interpret the behaviour they are observing in the same way as each other. Comments about inter-rater reliability are creditworthy here, but note that simply having more observers does *not* necessarily increase reliability **-Validity** is the extent to which the observation investigates what it set out to study. Reference to the validity of the operational details of the behavioural categories and also ecological validity are creditworthy. Also accept reference to population validity, sampling issues, observer bias and demand characteristics. -Accept comments about improvements that could be made to the procedure when discussing reliability and validity -Context = For example window, reflection, shop, shoppers, walking/passing by (window) and specific appropriate behaviours (eg fixing hair or posing)
1 mark	Brief and/or unclear evaluation of the reliability/validity of the study	
2 marks	Clear evaluation of the reliability/validity of the study but not in context	**OR** attempt to evaluate the reliability/validity of the study that is in context
3 marks	Clear evaluation of the reliability/validity of the study that is in context	

8 (a) What is time sampling? [2]		
Time sampling involves observations at set lengths of time at set intervals (eg three hourly observations between 08.00-09.00, 12.00-13.00 and 17.00-18.00), or every 5 minutes for a certain period (eg 1 hour)		
Marks	**Answer**	**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information	-Sampling must refer to sampling of behaviour, not participants (as in recruitment of participants)
1 mark	Attempt to explain what time sampling is	
2 marks	Clear explanation of what time sampling is	-Example 1 mark = *when you have set times for recording behaviour* -Example 2 marks = *recording behaviour at different times such as 9-10am, 12-1pm*

8 (b) Describe <u>one</u> strength and <u>one</u> weakness of time sampling if it were to be used in this study. [4]			
Strengths include: greater chance of sampling the behaviour of how a variety of different people respond when walking past a shop window (increasing representativeness); ability to ascertain the influence of time of day on how people react when walking past a shop window Weaknesses include: more time consuming; may decrease reliability as may be harder to be consistent if recording behaviour during many different time intervals			
Marks	**Answer**		**Additional Guidance**
2 marks for strength, 2 marks for weakness			
0 marks	The candidate has not provided any creditworthy information		-Do not credit general strengths or weaknesses of the observational method (eg observer bias)
1 mark	General description of strength/weakness but not in the context of the research outlined in the source material	**OR** attempt to describe strength/weakness (but lacks some clarity) that is in the context of the research outlined in the source material	
2 marks	Clear description of strength/weakness that is in the context of the research outlined in the source material		

9 Identify <u>one</u> ethical issue in this study. [2]			
Ethical issues could include: lack of consent from participants; invasion of privacy; (although in both these cases it is acknowledged that the observation is occurring in a public place, which the candidate could mention and be credited for as this still shows awareness of a relevant ethical issue related to the study); possible harm from fear of being watched if the observer is spotted etc.			
Marks	**Answer**		**Additional Guidance**
0 marks	The candidate has not provided any creditworthy information		-Context = For example window, reflection, shop, shoppers, walking/passing by (window) and specific appropriate behaviours (eg fixing hair or posing)
1 mark	Ethical issue identified but not discussed in the context of the research outlined in the source	**OR** ethical issue identified, but lacks clarity, but is in context	
2 marks	Ethical issue identified and discussed in the context of the research outlined in the source material		

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