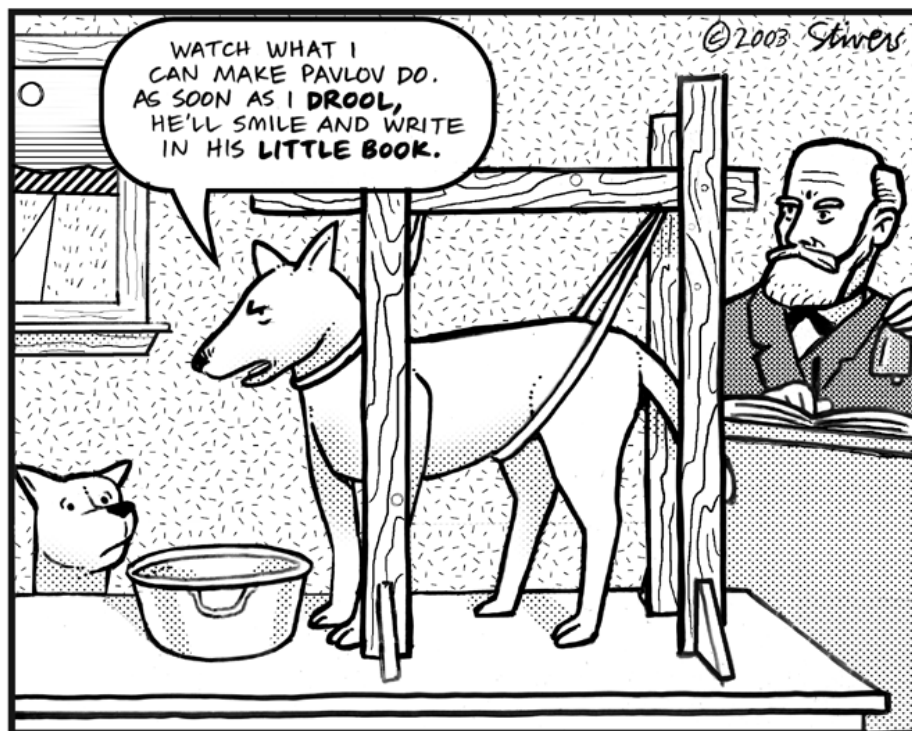


BUDMOUTH ACADEMY

GCSE Psychology Experiment Practical Workbook

Name



Watch: <https://www.youtube.com/watch?v=hFV71QPvX2I>
And <https://www.youtube.com/watch?v=whwwoCI57nw&t=10s>
Read: Textbook pages 98-99

Exemplar Practical:

Do we smile because we're happy or are we happy because we smile?

You're asked to design a practical project to investigate whether smiling causes people to feel happier. Your project must use an experimental method having an independent-measures design. You'll use an opportunity sample of participants randomly allocated to two conditions. In condition 'Smile', participants will be asked to hold a pencil between their teeth, not touching their lips (forced smile) for 30 seconds. In condition 'Frown', participants will be asked to hold a pencil between their lips, not touching their teeth (forced frown) for 30 seconds. At the end of the 30 seconds you'll ask participants to rate how happy they feel.

You'll need: a clean, unused pencil for each participant (or you could ask them to provide their own pencil) and a rating scale to measure happiness.

Rating happiness

Please circle the number that best corresponds to how happy you feel:

0 1 2 3 4 5 6 7 8 9 10

Not very happy

Very happy

Choose from one of the following to plan and conduct yourself

Practical One:

Demos, Kelley, Ryan, Davis and Whalen (2008) point out that we unconsciously notice others' enlarged pupils. The emotion centre of our brain registers this such that we rate men and women with larger pupils as more attractive (Hess, 1965; Toombs & Silverman, 2004). This occurs because pupil dilation indicates arousal as well as intelligence. (Tsukahara, Harrison, & Engle, 2016). We find this attractive, because when someone is aroused in our presence, we interpret this as them being interested in us — and also because we want intelligent partners (Buss & Schmitt, 1993).

Do we find people whose eyes have larger pupils more attractive or those with smaller pupils?

You're asked to design a practical project to investigate whether people find pictures of women whose eyes have larger pupils more attractive than those with smaller pupils. Your project must use an experimental method having a repeated measures design. You'll use an opportunity sample of participants. All the participants will see pictures of women with large pupils and those with small pupils and will be asked to rate their attractiveness on a scale of one to ten.

You'll need: 10 pictures of women with large pupils, 10 pictures of women with small pupils and a rating scale for each picture's attractiveness.

Please circle the number that best corresponds to how attractive you find the women in that picture:

0 1 2 3 4 5 6 7 8 9 10

Not attractive at all

Very attractive

Practical Two:

<https://www.verywellmind.com/a-short-term-memory-experiment-2795664>

Do people recall more words if they are organised into groups of related words?

You're asked to design a practical project to investigate whether people recall more words from a list of individual words or from a list that is organised into groups of related words. Your project must use an experimental method having a repeated methods design. You'll use an opportunity sample of participants. All the participants will try to remember words from a single list and those from a list grouped into related words.

You'll need: A list of individual words, a different list of words grouped together. A results table to record how many words are remembered.

Extension Work

Why not have us go at conducting a second experiment – but this time replicating one of the studies we have covered in class? Choose from the list below. (this will also act as revision)

MEMORY

Practical Three: Baddeley's coding study **page 14 textbook**

Practical Four: Murdock primacy and recency study **page 20 textbook**

Practical Five: McGeoch and McDonalds study on interference **page 25 textbook**

PERCEPTION

Practical Six: Bruner and Minturn perceptual set and expectation **page 56 textbook**

Practical Seven: Bugelski and Alampay perceptual set and expectation **page 56 textbook**

DEVELOPMENT

Practical Eight: Roediger and Karpicke's study of retrieval **page 84 textbook**

LANGUAGE, THOUGHT & COMMUNICATION**Practical Nine:** Conway *et al*'s study on eye contact **page 170 textbook****Practical Ten:** Reginald Adams and Robert Kleck's study on emotions **page 170 textbook****Task 1: Writing research aims and question (pages 94-95 textbook)****Watch:** <https://www.youtube.com/watch?v=t89RWv-1mks>

Write a research aim and question for your practical projects.

Example Practical 1: <i>smiling/happiness</i>	Aim: To investigate if we smile because we're happy or if we're happy because we smile.
	Question: Do we smile because we're happy or are we happy because we smile? <p style="text-align: center;">Causal</p>

Practical number:	Aim:
	Question:
Optional extra:	Aim:
	Question:

Task 2: Writing hypotheses (pages 94-95 textbook)**Watch:** <https://www.youtube.com/watch?v=zbUogwa1Z5I>

Write the IV and a DV for your practical, then operationalize them. Next, go on to write both a null and alternative hypothesis. (Operationalize means it being clearly defined by a researcher and a way of measuring the variable is stated)

Example Practical 1: <i>smiling/happiness</i>	IV: <i>Smiling:</i> operationalized by participants being asked to hold a pencil between their teeth, not touching their lips (forced smile) for 30 seconds. Or by participants being asked to hold a pencil between their lips, not touching their teeth (forced frown) for 30 seconds.	DV: <i>Level of happiness:</i> measured by participants using self-report to fill in a 10-point semantic differential scale where 1 equals not very happy and 10 equals very happy.
	Null hypothesis: There'll be no significant difference between levels of happiness measured by participants using self-report to fill in a 10-point semantic differential scale where 1 equals not very happy and 10 equals very happy dependent upon whether participants are holding a pencil between their teeth, not touching their lips (forced smile) for 30 seconds or if they're holding a pencil between their lips, not touching their teeth (forced frown) for 30 seconds. Any difference will be due to chance.	
	Alternative hypothesis: There'll be a significant difference between levels of happiness, measured by participants using self-report to fill in a 10-point semantic differential scale where 1 equals not very happy and 10 equals very happy dependent upon whether participants are holding a pencil between their teeth, not touching their lips (forced smile) for 30 seconds or if they're holding a pencil between their lips, not touching their teeth (forced frown) for 30 seconds.	

Practical number:	IV:	DV:

	Null hypothesis:	
	Alternative hypothesis:	
Optional extra:	IV:	DV:
	Null hypothesis:	
	Alternative hypothesis:	

Task 3: Selecting a sample (pages 102-103 textbook)

Watch: <https://www.youtube.com/watch?v=rybC0hpJq1I>

Decide who your population is going to be for your practical. Choose a sampling technique and say exactly how you're going to put that technique into practice. You'll need to state who, how, when and where you're going to obtain your sample. Remember, it MUST be replicable (that is, someone else could come along and do it).

Then, write a strength and weakness of your sampling method and relate them to the practical. (Think: PEE.)

IMPORTANT – You can only ask members of your household or people you can contact through the internet at the moment. You could ask a classmate (or friend) to conduct the practical on their family too and send them the materials and instructions over the internet to increase your sample size and you could do the same for someone else!!

Example Practical 1: smiling/happiness	
Population: GCSE students in the UK.	Sampling method: Opportunity sample.
In practice: The sample will be gathered by a psychology teacher asking each of the students in her/his psychology class to participate during a psychology lesson on a Monday morning.	
Strength: The participants are readily available. This can be seen as participants are students in a teacher's GCSE psychology class who were easily available to the teacher at the time. This means that it's quicker and easier than other methods.	Weakness: Non-representative as the kinds of people available are likely to be limited, and therefore similar. This can be seen as all the participants are students taking psychology GCSE in one particular school who are likely to have a number of characteristics in common as a particular type of person may be attracted to studying psychology. This means that the sample is biased.

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Practical number:	
Population:	Sampling method:
In practice:	
Strength:	Weakness:

Optional extra	
Population:	Sampling method:
In practice:	
Strength:	Weakness:

Task 4: Experimental (research) design (pages 100-101 textbook)

Watch: <https://www.youtube.com/watch?v=x3Ye5u7ggzI>

State which experimental design you're going to use for your practical. If it's independent measures state how you'll allocate them to each condition, if it's matched pairs you'll need to state the **relevant** characteristic(s) you're going to match on, and if it's repeated measures, if you're going to offset to avoid order effects how you're going to decide who does condition **a** first and then **b**, and who does condition **b** first and then **a**. Then write a strength and weakness of your research design, remembering to relate it to your practical. (Think: PEE)

Example Practical 1: <i>smiling/happiness</i>	Design: Independent measures.
	Allocation to groups: Must be randomly allocated to the 'smile' condition and the 'frown' condition, so the names of each of the participants will be written on a piece of paper and placed into a hat. The first 10 names pulled out will be in the 'smile' condition and the remaining 10 will be in the 'frown' condition.
Strength: Participants only see the experimental task once. This can be seen as participants will only take part in one condition of the experiment, smile or frown, which means that there's reduced exposure to demand characteristics as participants are unlikely to guess the aim of the experiment.	Weakness: Participants in one level of the IV may differ from those in another. For example, it may be that there will be a bias as participants who are naturally happy end up in the frown condition and participants who are naturally grumpier may end up in the 'smile' condition, meaning that individual differences may distort results.

Practical number:	Design:
	Allocation to groups:
Strength of design:	Weakness of design:

Optional extra	Design:
	Allocation to groups:
Strength of design:	Weakness of design:

Task 5: Identifying/controlling and minimizing extraneous variables (pages 96-97 textbook)

Watch: <https://www.youtube.com/watch?v=1WaJKGqONbY>

There are a number of different types of extraneous variables. These include: individual participant differences, demand characteristics, placebo effects, experimenter effects, order effects, artificiality, and the use of non-standardized instructions and procedures.

Ways to control and minimize the effects of extraneous variables include: participant selection and allocation, counterbalancing, single-blind procedures, double-blind procedures, placebos, standardized instructions and procedures, and experimental research designs (repeated measures, matched participants and independent groups).

In the first table for your practical state how each extraneous variable could affect the study. In the second table state how you'll operationalize each control to prevent the extraneous variable from becoming a confounding variable.

Extraneous variable	Description
Individual participant variables	Practical 1: <i>smiling/happiness</i> Some people may be naturally happier than other people.
	Practical number:
	Optional extra
Demand characteristics	Practical 1: <i>smiling/happiness</i> They may work out that I'm investigating smiling and happiness and decide to lie on the self-report to either help me get the results I expect or to deliberately mess it up.
	Practical number:
	Optional extra
	Practical 1: <i>smiling/happiness</i>

Experimenter effects	I may be more cheerful and upbeat in the smile condition. The fact that I'm a teacher could freak some people out or they may feel they have to give me the correct answer because I'm a teacher.
	Practical number:
	Optional extra
Order effects	Practical 1: <i>smiling/happiness</i> Not an issue as I'm using an independent measures design.
	Practical number:
	Optional extra
Artificiality	Practical 1: <i>smiling/happiness</i> It's really weird to hold a pencil in between your teeth or between your lips for 30 seconds.
	Practical number:
	Optional extra
Non-standardized instructions and procedures	Practical 1: <i>smiling/happiness</i> I could change what I say to each group and not explain what I want as well to one group as to another. It might be really hot or cold in the classroom, the lawnmower could be going outside for one group and not another, or it could be sunny for one group and grey and overcast for another.
	Practical number:
	Optional extra
Participant selection and allocation	Practical 1: <i>smiling/happiness</i> I'll randomly allocate participants to the smile or frown condition by putting their names in a hat. The first 10 will be in the smile condition and the rest in the frown.
	Practical number:
	Optional extra
Counterbalancing	Practical 1: <i>smiling/happiness</i> Don't need to do this as I'm using independent measures.
	Practical number:
	Optional extra

Single-blind procedure	Practical 1: <i>smiling/ happiness</i> I'll not tell my participants what I'm looking for until after they've completed the experiment.
	Practical number:
	Optional extra
Double-blind procedure	Practical 1: <i>smiling/happiness</i> I could write a set of standardized instructions and get another teacher, who doesn't know what I'm researching, to read them to the class.
	Practical number:
	Optional extra
Standardized instructions and procedures	Practical 1: <i>smiling/happiness</i> I can write a set of standardized procedures that give participants the instructions. I can ensure the blinds are drawn so they both just have electric light and ensure the temperature of the classroom stays the same for both conditions. I can also use the same room, and conduct the experiment at the same time of day for each group. Or I could use two similar classrooms and experiment with both groups at the same time.
	Practical number:
	Optional extra
Experimental research design	Practical 1: <i>smiling/happiness</i> I could use a matched-pairs design and ask participants to rate themselves whether they consider themselves to be a happy person or not and then ensure there's the same mix of responses in each group.
	Practical number:
	Optional extra

Task 6: Reliability and validity (pages 114-115 textbook)

Watch: <https://www.youtube.com/watch?v=wVLI1fxuoO4> and <https://www.youtube.com/watch?v=0SW14C5I-WA>

Consider each practical and suggest how reliable and valid each is. **Hint:** use your work on controlling extraneous variables, aspects of the experimental design and sampling techniques to help with this. (PEE.)

Reliability	How reliable is each practical?
Internal reliability	Practical 1: <i>smiling/happiness</i> The research has a high level of internal reliability as the task is precisely described and standardized. This can be seen as each participant will either hold a pencil between their teeth ensuring it doesn't touch their lips (smile condition) or they'll hold a pencil between their lips ensuring it doesn't touch their teeth (frown condition). This means it's highly replicable.
	Practical number:
	Optional extra

External reliability	Practical 1: smiling/happiness The external reliability is good. Should the test be repeated in three months using the test-retest mechanism, because the procedure is highly standardized as each participant will either hold a pencil between their teeth ensuring it doesn't touch their lips (smile condition) or they'll hold a pencil between their lips ensuring it doesn't touch their teeth (frown condition) it's highly replicable and I would anticipate similar scores on participants self-rating of happiness.
	Practical number:
	Optional extra
Validity	How valid is each practical?
Internal validity (face, content, criterion)	Practical 1: smiling/happiness The internal validity of the experiment is good. The experiment is highly controlled as participants have been randomly allocated into the 'smile' and 'frown' conditions minimizing participant variables. There are standardized instructions to reduce experimenter effects and all other factors of the environment, such as time of day and temperature have been standardized to ensure situational variables don't impact on the test. This suggests that the experiment is measuring what it intends to measure.
	Practical number:
	Optional extra
External validity (population and ecological)	Practical 1: smiling/happiness The external (ecological) validity of the experiment is very poor. It's not normal to have to hold a pencil in between your teeth to force a smile or between your lips to force a frown and thus the mundane realism is poor. In addition, the population validity is weak as participants were gathered by opportunity sample from a single psychology class. This therefore means that it'll be difficult to generalize the results beyond the confines of the experimental groups.
	Practical number:
	Optional extra

Task 7: Collecting data (pages 116-117 textbook)

Watch: <https://www.youtube.com/watch?v=CVVkndyc6vs> and <https://www.youtube.com/watch?v=HkQ4PvNIGs>

For your practical, state what data you'll collect and what type of data they are. Then sketch out a raw data table to collect the data for your practical. (Quantitative/qualitative, primary or secondary)

Example Practical 1: <i>smiling/happiness</i>	Level of data: Level of happiness: measured by participants using self-report to fill in a 10-point semantic differential scale where 1 equals not very happy and 10 equals very happy. This'll give ordinal data. Quantitative primary data.			
	Raw data collection table:			
	'Smile' condition		'Frown' condition	
Participant	Rating	Participant	Rating	
A		K		
B		L		
C		M		
D		N		
E		O		
F		P		
G		Q		
H		R		
I		S		
J		T		

<p>Practical number:</p>	<p>Level of data: Raw data collection table:</p>
<p>Optional extra</p>	<p>Level of data: Raw data collection table:</p>

Task 8: Ethics (pages 104-105 textbook)

Watch: <https://www.youtube.com/watch?v=ogJqt54UbFw>

For each of the following issues state how you will ensure that each practical is ethical.

<p>Example Practical 1: smiling/happiness</p>	
<p>Issue</p>	<p>Possible solutions</p>
<p><i>Consent</i></p>	<p>Give a full brief to participants so they can give informed consent. Offer the right to withdraw. There will also be a full debrief at the end where participants are reminded of their right to withdraw their results and are offered support should they require it.</p>
<p><i>Deception</i></p>	<p>There's no deception, participants are aware of what the study is investigating.</p>
<p><i>Withdrawal</i></p>	<p>Tell participants at the start of the study that they've the right to leave and to withdraw their results. Remind them later in the study and also in the debrief.</p>
<p><i>Confidentiality</i></p>	<p>Participants' names won't be recorded, letters or numbers will be used instead.</p>
<p><i>Protection from psychological and physical harm</i></p>	<p>The procedure is safe for participants. New and clean pencils will be used that have been wiped with antibacterial wipes to ensure they are hygienic. Participants will have the right to withdraw at any time if they feel they are being or may be harmed. Debrief will be given after the experiment to check the wellbeing of participants and are offered support should they require it.</p>

Practical number:

Issue	Possible solutions
<i>Consent</i>	
<i>Deception</i>	
<i>Withdrawal</i>	
<i>Confidentiality</i>	
<i>Protection</i>	
Optional extra:	
Issue	Possible solutions
<i>Consent</i>	
<i>Deception</i>	
<i>Withdrawal</i>	
<i>Confidentiality</i>	
<i>Protection</i>	

Task 9: Conducting your practical

You're now at the stage where you can conduct your own practical. In **discussion with your teacher** and using the work you've prepared above, gather your materials (keep a list and examples of the apparatus you use). Write your standardized procedure (think about timings) including standardized instructions. Find a room or space where you can conduct your experiment, gather your sample and collect your data using the raw data table you generated. Remember the controls you need to put in place and don't break any ethical guidelines. Good luck – you're about to become a psychological researcher!

I must see all of your resources and plans before you start to collect data.

- 1. Consent form & debrief statement,**
- 2. Standardised instructions for participants.**
- 3. Resources being used e.g word list.**
- 4. This planning sheet fully completed.**
- 5. Anything else you are planning to use.**

What are Pilot studies?

Watch: <https://www.youtube.com/watch?v=4vOPS5cG9wo>

A pilot study is a small-scale trial run of a research design before doing the real thing. It's done in order to find out if certain things don't work. For example, participants may not understand instructions or, in the case of an experiment, might guess what it's all about. Behavioural categories may be unclear, or overlap in an observation. In a self-report or experiment participants may get very bored because there are too many tasks or questions and not give truthful answers. Thus the aim of a **pilot study** is to check the method (not to see if the results are what was expected) and find solutions to any issues. This improves reliability and validity. For an experiment it's important to check:

- the participants can follow the standardized instructions,
- that the apparatus and materials are appropriate,
- that the DV covers the full range of scores (to avoid floor – all too hard, or ceiling – all too easy, effects),
- for any possible extraneous variables that need to be controlled,
- whether any aspects of the procedure will lead to demand characteristics,
- whether there are any order effects in a repeated-measures design.

Task 10: Descriptive statistics

Task 10a (pages 118-119 textbook):

Watch: <https://www.youtube.com/watch?v=bG1i2Z9C61U>

Using the data you collected whilst conducting your practical calculate the mean, median and mode for your data set. Write a short paragraph that explains what's in the descriptive statistics table. (*This paragraph should be short, but it should clarify the table.*) In particular address any outliers (Odd results that are unusually high or unusually low) that may have skewed the data.

Example Practical 1: smiling/happiness

Condition 1: 'Smile'

Mean	Median	Mode	Range

Condition 2: 'Frown'

Mean	Median	Mode	Range

What does this tell us about the conditions?

Mean:

Median:

Mode:

Range:

Practical:

Condition 1:

Mean	Median	Mode	Range

Condition 2:

Mean	Median	Mode	Range

What does this tell us about the two conditions?

Mean:

Median:

Mode:

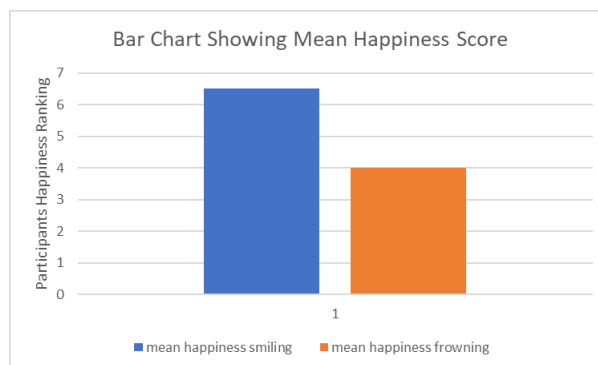
Range:

Task 10b (pages 120-121 textbook):

Watch: <https://www.youtube.com/watch?v=5FikS-bFKis>

Now create a graph to present your data. You may choose to have two graphs showing the results of each condition, or you may prefer to present your data on one graph. Ensure it's relevant and adds to the information already presented. Check the labelling, there should be a title and each axis should be clearly labelled.

Example Practical 1: smiling/happiness



Your Practical:

Task 12: Writing up your practical.

Watch: https://www.youtube.com/watch?v=SAVoYAh_9MU

Type out or write up your practical project. It should have the following sections

Introduction	This talks about the THEORY your practical project is based on. You will need to use the online textbook to look up what has previously been discovered about the area you are investigating. Are you replicating (doing a repeat) of a particular research study? Who conducted the study and what did they find? What is the theory that the study is based on? For BONUS MARKS can you think of a reason why it is useful to conduct this study (a rationale). What benefits would doing this study have?
Method	This contains all your work from tasks 1-8 in this workbook. It is your 'recipe' for conducting the practical and includes aim and question, hypotheses, sample, research design, controls, reliability and validity, data collection and ethics. The harder you worked on each of the tasks the easier this section is to write. You can essentially just copy the answers to the tasks into this section – you've already done the work!
Results	This contains your work from task 10a and 10b. (The raw data – and your calculations go in the appendices)
Discussion	This is where you EVALUATE your practical project. Answer the following questions 1. Did you accept or reject your null hypothesis? 2. Did your results match or disagree with the findings from the previous research / theory that you talked about in your introduction? 3. What was good about your practical project (write 1 or 2 PEE paragraphs here – you already have them from the tasks you completed in the workbook) 4. What were limitations of your practical project (write 1 or 2 PEE paragraphs here – you already have them from the tasks you completed in the workbook) 5. How could the findings be used in the real world? Can you think of any applications of your study, for example to education or government policy? 6. a) What future research could be carried out? b) Based on your findings do you have any ideas of how your study could be improved (think back to your limitations here) c) What are the different ways that information could be collected to add detail to, or test your findings (e.g. could you conduct a questionnaire / interview or an observation)? What might be the benefits of doing that?
Appendices	This is where you put examples of any materials you used to conduct the practical, your raw data and the maths that you did to calculate the mean, median, mode and range. It has a sub-section called REFERENCES where you list the books, or website addresses you used to help you prepare and write-up your practical.

Deadline: