

I hypothesise

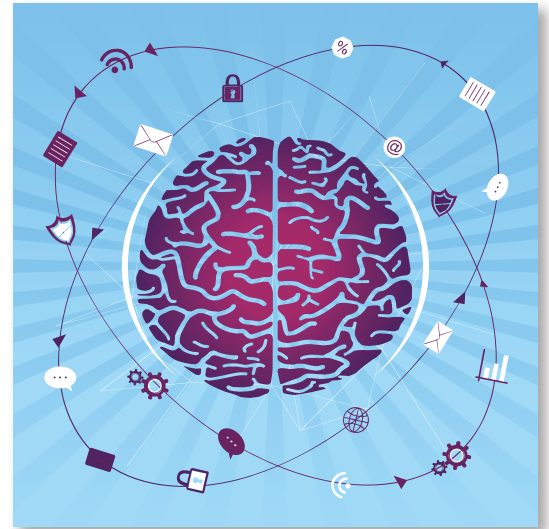
Task: Devise alternative and null hypotheses for the following aims. Make sure that each hypothesis is a comparative statement and that you clearly operationalise the IV and the DV.

For example:

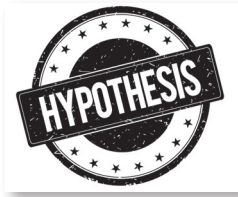
Aim: To investigate the effect of drinking alcohol on participants' scores on a test of reaction time.

Alternative hypothesis: Participants who drink alcohol have slower reaction times than those who do not drink alcohol.

Null hypothesis: There is no difference in the reaction times of participants who drink alcohol and those who do not.



1. **Aim:** To investigate whether male or female schoolchildren play more aggressive playground games.
Alternative hypothesis:
Null hypothesis:
2. **Aim:** To find out whether people who suffer from anxiety have higher blood pressure.
Alternative hypothesis:
Null hypothesis:
3. **Aim:** To investigate the effect of having four hours' sleep a night on participants' scores on a test of concentration.
Alternative hypothesis:
Null hypothesis:
4. **Aim:** To investigate the effect of brain size on intelligence test scores.
Alternative hypothesis:
Null hypothesis:
5. **Aim:** To investigate the effect of revising using mind maps on GCSE Psychology results.
Alternative hypothesis:
Null hypothesis:
6. **Aim:** To find out whether drinking energy drinks makes people talk faster.
Alternative hypothesis:
Null hypothesis:
7. **Aim:** To find out whether concentration test scores are affected by having more or less than four hours' sleep a night.
Alternative hypothesis:
Null hypothesis:
8. **Aim:** To investigate whether women who receive hypnosis have lower self-reported pain scores during labour.
Alternative hypothesis:
Null hypothesis:



Hypotheses and variables

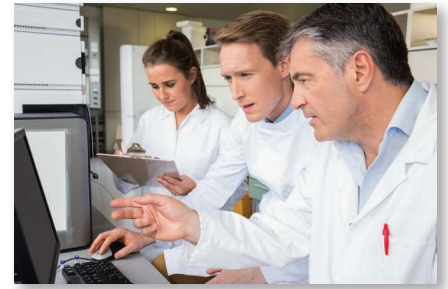


Question	Answer
1. What is a theory?	
2. What do psychologists do to test their theories?	
3. What is a variable?	
4. What do all psychological investigations start with?	
5. What is an independent variable?	
6. Consider the example used in the book of an investigation to see if the number of balls thrown into a bucket is affected by an audience – what are the two levels of the IV?	
7. What is a dependent variable?	
8. What does the dependent variable depend on?	
9. Fill in the blanks: Anything else that potentially affects the dependent variable must be kept _____ and _____.	
10. What is meant by operationalisation of variables?	
11. What three things does a hypothesis need to contain?	
12. What is the difference between an alternative and null hypothesis?	

Which variable?

For each investigation below identify the following:

- The independent variable (IV).
- The dependent variable (DV).
- At least two extraneous variables (EVs).
- How each EV would be controlled.



For example: *Investigating the effect of drinking alcohol on driving ability.*

IV: Whether the participants drink alcohol or not.	DV: A score representing the participants' driving ability.
EV 1: The driving ability of the participants at the start (some may be naturally poor drivers).	Control: Give each of the participants a driving test beforehand and only use those who have a similar driving ability or match participants.
EV 2: The age of participants (older drivers may be able to cope better).	Control: Only use people of the same age or randomly allocate to groups.

1. *Looking at the effect of drinking a cup of coffee on people's ability to remember a list of 20 words.*

IV:	DV:
EV 1:	Control:
EV 2:	Control:

2. *Investigating whether people who say they are religious are more likely to gain a higher score on a paranormal belief questionnaire (when a high score indicates a strong belief).*

IV:	DV:
EV 1:	Control:
EV 2:	Control:

3. Looking at whether running on a treadmill increases the amount of time people sleep the following night.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

4. Looking at whether adopted children with schizophrenic mothers are more likely to be diagnosed with schizophrenia than adopted children with mothers who are not schizophrenic.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

5. A data review to investigate whether depression is more likely in countries with little sunlight.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

6. Investigating whether drinking an energy drink improves the time it takes GCSE Psychology students to answer a 9-mark exam-style question.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

7. To look at whether people who play the computer game Super Soccer Star on an expert level score more goals in a five-a-side game than those who play on amateur level.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

8. Investigating whether students who put in ten hours of revision for their Psychology mock will obtain a higher grade than students who do no revision.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

9. Looking at whether higher income people gain higher intelligence test scores than lower income people.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

10. Looking at whether people recall more words from a list that is organised into groups of related words.

IV:	DV:
EV 1:	Control:
EV 2:	Control:

Psychology investigation



Task: Look at the above picture and decide which of the following characteristics this person would have. When you have finished, count up the number of characteristics they have to give the person an overall social desirability score out of ten.

Friendly

Loyal

Generous

Honest

Affectionate

Hard-working

Funny

Intelligent

Caring

Hygienic



Task: Look at the above picture and decide which of the following characteristics this person would have. When you have finished give the person a social desirability score out of ten.

Friendly

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Generous

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Affectionate

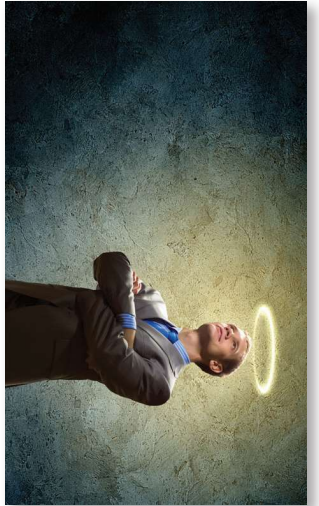
Hard-working

Funny

Intelligent

Caring

Hygienic



1. Fill in the following results table using the scores provided by the other participants in the study.

Group 1 Unattractive woman		Group 2 Attractive woman	
Participant number	Score	Participant number	Score
1		14	
2		15	
3		16	
4		17	
5		18	
6		19	
7		20	
8		21	
9		22	
10		23	
11		24	
12		25	
13		26	
Mean social desirability score		Mean social desirability score	

2. Write a suitable conclusion – what have you learned about how physically attractive people are evaluated? Start off your conclusion with the phrase ‘The results suggest that...’

3. Sketch a suitable graph to display the mean scores. Make sure you label the axes and give the graph a title.

Psychology investigation

4. What are the independent and dependent variables in this experiment?

Independent variable:

Dependent variable:

Blank box for writing the independent and dependent variables.

5. Write an alternative hypothesis for this study.

6. Identify and explain the effect of at least **three** extraneous variables in this study and state how they could have been controlled.

Blank box for identifying and explaining the effect of at least three extraneous variables.

Extension task

Write a standardised procedure for this study.

Blank box for writing a standardised procedure for the study.

Which study do I choose?

Task: For each of the following investigations, state whether it would be better to do it as a lab, field or natural experiment. Give a reason for your answer in each case. When doing this, refer to things such as whether the study should take place in a real-world setting, whether the researcher would be able to change the IV. You may also want to comment on things such as ethical issues, control of extraneous variables and the likelihood of demand characteristics and the validity of the findings of the study. Write your answers on paper.



1. To investigate the effect of listening to rock music on concentration.
Lab/field/natural experiment:
Reason:
2. To investigate the effect of exercise on the amount of deep sleep someone has throughout the night.
Lab/field/natural experiment:
Reason:
3. To see whether murder rates are higher after a big boxing match than before.
Lab/field/natural experiment:
Reason:
4. Investigating whether children draw larger pictures of Father Christmas two weeks before Christmas or two weeks after Christmas.
Lab/field/natural experiment:
Reason:
5. To find out whether people find pictures of women whose eyes have larger pupils more attractive than those with smaller pupils.
Lab/field/natural experiment:
Reason:
6. To see whether Manchester United supporters are more likely to help another football supporter who has fallen on the floor if the supporter is wearing a Liverpool or Man United shirt.
Lab/field/natural experiment:
Reason:
7. Investigating whether males or females are more likely to give electric shocks to puppies if told to by an authority figure.
Lab/field/natural experiment:
Reason:
8. Investigating whether people are more likely to get depression in countries with little sunlight compared to those with more sunlight.
Lab/field/natural experiment:
Reason:
9. To investigate whether football supporters are more violent after a game when it is at home rather than away.
Lab/field/natural experiment:
Reason:
10. To find out whether people interviewed by a member of the opposite sex find them more attractive if the study takes place on a high bridge as opposed to a low bridge.
Lab/field/natural experiment:
Reason:

Which type of experiment am I evaluating?



Task: Below are strengths and weaknesses of laboratory, field and natural experiments. Your task is to write down which type/types of experiment the evaluation relates to, whether it is a strength or weakness and why.

Description of the evaluation	Type of experiment	Strength or weakness?	Why? (1) Your explanation. (2) Your conclusion.
One evaluation is that extraneous variables (EVs) can be controlled.			(1) (2)
There may be unique characteristics of the participants.			(1) (2)
Participants know they are being tested.			(1) (2)
They are conducted in real-life settings.			(1) (2)
They involve real-life variables rather than changes manipulated by a researcher.			(1) (2)
There may be ethical issues with this type of experiment.			(1) (2)
The event that is being studied may only happen very rarely.			(1) (2)
The researcher may lose control of extraneous variables.			(1) (2)

Task: Put the following terms in the appropriate part of the diagram:

- Time-consuming
- Only uses one set of participants in both conditions
- Different groups in each condition
- Expensive
- No order effects
- Participants are not matched with other similar participants
- Order effects
- Participants are randomly allocated to conditions
- Different participants in different conditions
- Fewer individual differences
- Very time-consuming
- Participants are matched with someone similar in the other condition
- Cheap to carry out
- Demand characteristics
- Individual differences affect results
- Fewer demand characteristics

