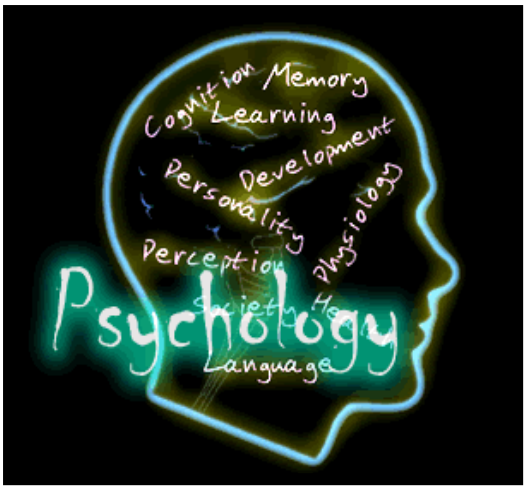
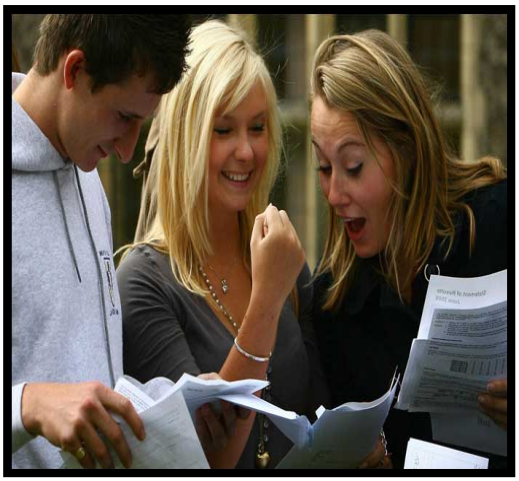
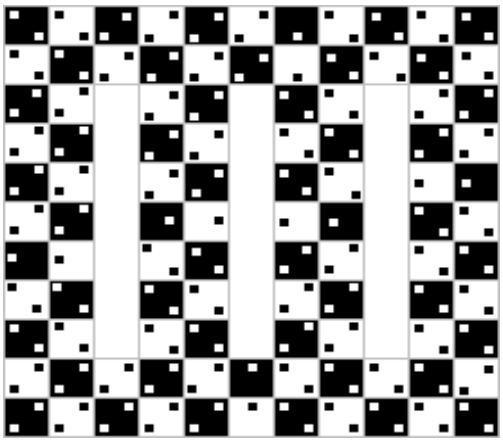




St. Thomas More RC Academy & Sixth Form College

Psychology Department

An Introduction to Psychology
2020/2022



Name:

……

Contents

Introduction

Hello year 12 students,
Thank you for expressing an interest in studying A-level Psychology at St. Thomas More Sixth Form College. This booklet should act as a light introduction to the subject and is designed to equip you with the basic 'language' of Psychology. It is essential therefore, that you complete each task as we will be referring to this material in almost every Psychology lesson.

This knowledge will be used as a foundation which can then be applied to each area we study in the subject such as Memory; Attachment; Social Influenc; Psychopathology; and, particularly Research Methods.

Psychology will be a completely new subject to you, so this is a superb opportunity for you to study something which is: different; topical; interesting; ever-changing and; (hopefully) enjoyable. If you approach the subject with enthusiasm and energy (including completing these tasks), then I am sure that you will gain a lot from it.

I wish you all the very best with your forthcoming GCSE results and look forward to teaching you in September.

If you have any queries whatsoever, please feel free to contact me on **rclifford@stmacademyl.org.uk**

Have a great summer holiday.
Take care
Mr Clifford

Psychology at A-Level

What is Psychology?
Psychology has been defined as the scientific study of brain and behaviour.

Why study A-Level Psychology?
Studying psychology at GCSE, A Level or equivalent gives you a good basic knowledge and provides an insight into what it might be like to be a professional psychologist. Even if you decide to work in a non-psychology related field, the skills and knowledge that you develop studying psychology will be helpful. It is a good way of keeping your options open.

By the end of your course, you should have developed a critical approach to scientific methods and evidence, and a knowledge and understanding of how psychology works and its role in society.

You will also develop skills including:
- Oral, visual and written communication problem solving.
- Numeracy and statistics.
- Critical and creative thinking.
- Decision making.
- Organisational skills.
- Teamwork.
- IT and data analysis skills.

Why does Psychology have entry requirements?:
In Psychology, some skills are essential for success. Since this will be the first opportunity for you to study Psychology you won't yet have these skills. However, skills from other subjects are transferable to Psychology. The main ones are:
- **English** – In Psychology, you will be required to write extended answers (essays). The ability to express your thoughts clearly and elaborate on points is crucial.
- **Science** – Each module has a physiological element to it where you must look at the biological explanation of certain behaviours.
- **Maths** – Psychology is now classed as a 'science'. As such, research has to be analysed using statistical tests. A basic knowledge of this is vital.

Psychology Myth-busters:
Psychology ***will not*** enable you to…
- Read minds
- Psychoanalyse people
- Interpret individual's body language
- Diagnose/ detect mental illness

Psychology ***will*** enable you to…
- Get a more in-depth understanding of some human behaviours
- Study human nature scientifically
- Apply your knowledge to everyday situations and topical events

Careers in Psychology

What can I do with Psychology?

Psychologists work in many different areas of society and are concerned with practical problems. Below are only a few examples:

- Helping people to overcome depression, stress, trauma or phobias.
- Easing the effects of parental divorce on children.
- Speeding up recovery from brain injury.
- Helping to stop or prevent bullying at school or in the workplace.
- Ensuring that school pupils and students are being taught in the most effective way.
- Making sure that people are happy at work and perform to the best of their abilities.
- Helping the police, courts and prison service to perform more effectively.
- Helping athletes and sports people to perform better.

Types of Psychologists:

The title of **Chartered Psychologist** is the benchmark of professional recognition, reflects the highest standard of psychological knowledge and expertise, and allows a psychologist to use the abbreviation CPsychol after their name.

The British Psychological Society recognises several areas of psychology in which it is possible to become a Chartered Psychologist:

- Clinical psychologists
- Counselling psychologists
- Educational psychologists
- Forensic psychologists
- Health psychologists
- Neuropsychologists
- Occupational psychologists
- Sport and exercise psychologists
- Teachers and researchers in psychology

Details on each of these careers can be found on:
http://www.bps.org.uk/careers-education-training/careers-education-and-training

Psychology for other careers:

Even if you decide to work in a non-psychology related field, the skills and knowledge that you develop studying psychology will be helpful. It is a good way of keeping your options open.

AQA Psychology Course Content

Paper 1: Introductory Topics in Psychology

This is made up of 4 topics:

- **Social Influence:**
  In this topic students investigate: why people conform to group behaviour; why people obey orders, even when they know their actions are unethical and harmful; why people resist orders to obey and; how this research has affected society.

- **Memory:**
  In this topic students investigate: different explanations for how memory works; Explanations of forgetting; The reliability of recall of real-life crimes and events; How questioning techniques and age can affect recall and; ways in which we can improve our memory.

- **Human Attachment:**
  In this topic students study: explanations of why infants form an attachment with their mother/caregiver; animal studies of attachment; different ways in which infants attach; how attachments differ from culture to culture; what happens if infants fail to form an attachment and; how day care affects attachment.

- **Psychopathology:**
  In this topic, students will look at how psychologists define abnormality/ mental illness; The characteristics of phobias, OCD and depression; treating phobias; treating depression; drug treatments for OCD.

Paper 2: Psychology in Context

This is made up of 3 topics:

- **Approaches:**
  This investigates the major schools of thought in Psychology: Behavioural; Social Learning; Cognitive; Biological; Psychodynamic and; Humanistic.

- **Biopsychology:**
  In this topic students explore various functions of the brain and their link to human behaviour, for example the role of adrenaline in stress and the role that our internal body clock plays in the sleep/wake cycle.

- **Research Methods:**
  Here, students will investigate the factors related to conducting psychological research.

Paper 3: Issues and Options in Psychology

This is made up of 4 topics

- **Relationships:**
  Here the students look at: factors relating to the formation of relationships; why relationships work or break down; sexual selection and human reproductive behaviour; differences in what males and females find attractive and; cultural differences in relationships.

- **Schizophrenia:**
  For this topic, students will investigate: clinical characteristics of the disorder; psychological and biological explanations of it and; psychological and biological treatments of it.

- **Forensic Psychology:**
  Students will investigate: defining crime; offender profiling; biological explanations of offending; psychological explanations of offending; dealing with defenders including anger management and restorative justice.

- **Issues and Debates in Psychology:**
  Students will be taught about the big issues in psychology such as gender bias; free will and determinism; cultural bias; nature v nurture and ethics.

Students will sit three 2 hour exams on units 1, 2 & 3 at the end of year 2 (May/ June 2020).

Each exam will be made of 96 marks and will include multiple choice, short answers and extended writing piece.

Each paper will be worth 33.33% of the entire A-level.

Psychology at St. Thomas More RC Academy

Course Popularity

The number of students choosing to study psychology is increasing each year.

Year	AS-Level	A2-Level
2005	36	
2006	49	13
2007	42	25
2008	52	34
2009	58	40
2010	61	48
2011	80	42
2012	60	62
2013	76	48
2014	60	48
2015	66	43
2016:	62	40
2017:	43	44

Psychology at University

The number of students choosing to study Psychology at University is increasing each year.

Year	Number	% of Students
2006	3	23%
2007	9	36%
2008	12	36%
2009	14	35%
2010	16	33%
2011	20	48%
2012	13	26%
2013	15	31%
2014	17	35%
2015	12	31%
2016	12	28%
2017	13	33%

AS-Level

June 2005:	A-E 46%	A-B: 16%
June 2006:	A-E 64%	A-B: 18%
June 2007:	A-E 90.7%	A-B: 32.6
June 2008:	A-E 91.3%	A-B: 39.1%
June 2009:	A-E 97%	A-B: 43%
June 2010:	A-E 89%	A-B: 33%
June 2011:	A-E 88%	A-B: 40%
June 2012:	A-E 89%	A-B: 36%
June 2013:	A-E 91%	A-B: 35%
June 2014:	A-E 92%	A-B: 45%
June 2015:	A-E 90%	A-B: 34%
June 2016:	A-E 92%	A-B: 30%
June 2017:	A-E 86%	A-B: 34%

Results

The performance at both AS level and A2 level is consistently above national average.

A-Level

June 2006:	A-E 92.3%	A-B: 31%
June 2007:	A-E 88%	A-B: 44%
June 2008:	A-E 97%	A-B: 39.4%
June 2009:	A-E 100%	A-B: 62.5%
June 2010:	A*-E 100%	A-B: 50%
June 2011:	A*-E 98%	A-B: 44%
June 2012:	A*-E 98%	A-B: 50%
June 2013:	A*-E 100%	A-B: 48%
June 2014:	A*-E 100%	A-B: 44%
June 2015:	A*-E 100%	A-B: 63%
June 2016:	A*-E 100%	A-B: 53%
June 2017:	A*-E 100%	A-B: 51%

Year	AS-Level			A2-Level		
	STM		National Average	STM		National Average
2017	A:	16%	13%	A*/A:	19%	18%
	A-B:	34%	30%	A-B:	51%	47%
	A-E:	86%	83%	A-E:	100%	97%
2016	A:	13%	12%	A*/A:	15%	15%
	A-B:	32%	29%	A-B:	51%	46%
	A-E:	92%	82%	A-E:	100%	98%
2015	A:	8%	13%	A*/A:	23%	18%
	A-B:	34%	33%	A-B:	63%	45%
	A-E:	90%	84%	A-E:	100%	97%
2014	A:	18%	12.5%	A*/A:	18%	17.6%
	A-B:	45%	31%	A-B:	44%	40%
	A-E:	92%	80%	A-E:	100%	97%
2013	A:	15%	12%	A*/A:	20%	18%
	A-B:	35%	30%	A-B:	48%	40%
	A-E:	91%	81%	A-E:	100%	97%
2012	A:	16%	9%	A*/A:	25%	14%
	A-B:	36%	26%	A-B:	50%	39%
	A-E:	89%	81%	A-E:	98%	97%
2011	A:	14%	10%	A*/A:	17%	16%
	A-B:	40%	27%	A-B:	46%	44%
	A-E:	88%	80%	A-E:	98%	97%
2010	A:	11%	11%	A*/A:	27%	17%
	A-B:	33%	26%	A-B:	50%	41%
	A-E:	89%	79%	A-E:	100%	97%

Activities Rationale & Checklist

Rationale:
The activities on the following pages have been designed to give you a really basic understanding of the research methods used in Psychology and to equip you with the terminology/ language of Psychology.

In Psychology you will look at a number of Psychological studies. You will have to evaluate these studies by looking at their strengths and weaknesses.

These activities will provide you with the tools you need in order to critically assess the usefulness of studies in Psychology.

Activities Checklist:
- Ψ After you have completed each activity you should demonstrate your understanding of the material by circling the appropriate number on the scale below.
- Ψ On the scale the
  - Ψ Make a note of any questions if you do not completely understand any of the topics.

Activity	Title	How would you describe your understanding of the material?				
		Unsatisfactory	Satisfactory	Good	Very Good	Excellent
1.	Variables	1.	2.	3.	4.	5.
Questions:						
2.	Hypotheses	1.	2.	3.	4.	5.
Questions:						
3.	Experimental Methods	1.	2.	3.	4.	5.
Questions:						
4.	Experimental Design	1.	2.	3.	4.	5.
Questions:						
5.	Sampling Techniques	1.	2.	3.	4.	5.
Questions:						
6.	Summary Question 1	1.	2.	3.	4.	5.
Questions:						
7.	Summary Question 2	1.	2.	3.	4.	5.
Questions:						

Activity 1
Variables

Aim

To gain an understanding of how Psychologists investigate how changing one factor can affect human behaviour.

Learning Objectives

By then end of this activity you…

- **Must be able to define the terms Independent Variable, Dependent Variable and Extraneous Variables.**
- **Should be able to identify the Independent Variable and Dependent Variable in Psychological Research.**
- **Could be able to explain extraneous variables in the context of Psychological Experiments.**

Duration

25 – 40 minutes

Activity 1 – Variables

Definitions:
The Independent Variable: This is the variable that the researcher manipulates or changes. This is assumed to have a direct effect on the dependent variable.

Dependent Variable: This is the variable that is measured. It is affected by changes in the independent variable.

Extraneous Variables: These are variables other than the independent variable (the thing changed) which affect the dependent variable (the thing measured). Examples include: age of participants; gender; intelligence; the environment the research was conducted in; noise levels; time of day; the cultural background of the participants etc.

Example:
Researchers were interested to see how individuals/participants remember information. They gave one group a series of images and gave another group a series of words. The groups were allowed to study the words/images for 2 minutes. They then had to recall as many words or images as they could in 3 minutes.

The Independent Variable (IV), i.e. the thing the researcher changes between groups–
The type of information the participants were presented with (i.e. images or words).

The Dependent Variable (DV), i.e. the thing the researcher measures to assess the difference between the groups. –
The number of words images correctly recalled by each participant.

Extraneous Variables (EV), i.e. anything, other than the Independent Variable which may have had an impact on the outcome of the research. –
These could include the IQ/Intelligence of the participants; whether or not the words or images were the same (i.e. one group seen a picture of a balloon, the other group seen the word 'balloon).

Activity:
You must now look at the following examples of research and, on the next page, identify the Independent Variable, the Dependent Variable and any Extraneous Variables.

1. Psychologists wanted to find out if the use of leading questions affected individual's perception of events. They showed 2 groups of participants the same video clip of a car-crash and asked one group: "How fast were the cars going when they ***smashed*** into each other?" and asked the other group "How fast were the cars going when they ***bumped*** into each other?".
2. Researchers were interested to know whether people work better in the morning than they do in the evening? A group of students were given a standard IQ test at 9am and another group were given the same test at 9pm.
3. Psychologists wanted to find out if caffeine consumption affected reaction times. They gave one group 2 cups of coffee and timed how quickly they reacted to the presentation of a red dot on a screen. The second group did the same task but didn't consume any coffee.
4. Psychologists wanted to find out if alcohol consumption affected how attractive we find individuals. They gave one group 5 units of alcohol and asked them to rate pictures of 10 individuals on their levels of physical attractiveness on a scale of 1-10. They asked group 2 to do the same task, but this group didn't consume any units of alcohol.
5. Psychologists were interested in researching the link between personality and belief in supernatural activity. They asked a group of introvert (people who are quiet, shy and subdued) and extrovert (people who are outgoing and confident) to complete a questionnaire which scored their belief in supernatural phenomena.

Activity 1 – Variables. Answers

Question	Independent Variable	Dependent Variable	Extraneous Variables
1.			
2.			
3.			
4.			
5.			

Activity 2
Hypotheses

Aim

To gain an understanding of how Psychologists formulate testable predictions about what they expect to find in their research.

Learning Objectives

By then end of this activity you…

- Ψ **Must be able to define the terms Directional Hypothesis, Non-Directional Hypothesis and Null Hypothesis.**
- Ψ **Should be able to identify which type of hypothesis is being used in psychological research.**
- Ψ **Could be able to write a clear and testable hypothesis for a psychological experiment.**

Duration

25 – 40 minutes

Activity 2 – Hypotheses.
Introduction

Formulating Hypotheses:

- A hypothesis can be defined simply as a testable statement. A research hypothesis is a general prediction made at the beginning of an investigation about what the researcher expects to happen.
- It is essential to phrase the hypothesis carefully, so that it is both clear and testable.

E.G The Alcohol Consumption and Physical Attractiveness study described in question 4 on Activity 1:

Participants who consume alcohol will rate individuals as more physically attractive than participants who don't consume alcohol.

Researchers refer to two different hypotheses when analyzing their data:

- The alternative hypothesis
- The null hypothesis.

Alternative (Experimental) Hypothesis:

This predicts significant differences in the DV as a result of manipulation of the IV. They predict that any difference or effect found will not be due to chance, e.g. there will be a significant difference in reaction times as a result of alcohol consumption.

There are two types of experimental (alternative) hypotheses.

- **Directional (also called 'one-tailed').**

These state the direction of the results. They're called one-tailed because they state one direction in which the results can go.
These hypotheses are used when previous research evidence suggests that it's possible to make a clear prediction, or when you're replicating a previous study that used a directional hypothesis.
E.g. Boys will perform better than girls in a reaction speed test.

- **Non-directional ('two-tailed').**

These state that there will be a difference but don't state the direction of the results.
E.g. There will be a difference in performance on reaction speed tests between boys and girls.

Examples of Directional and Non-directional Hypotheses:

- **Directional:**

People take ***longer*** to state the colour of a word when it is written in a conflicting colour than when the word and the colour it is written in are the same.

- **Non-directional:**

Performance speeds are ***different*** when people state the colour of a word when it is written in a conflicting colour than when the word and the colour it is written in are the same.

- **Directional:**

People who do homework ***without*** the TV on produce better results than those who do homework with the TV on.

- **Non-directional:**

There is a ***difference*** between work produce in noisy or silent conditions.

Null Hypothesis:

This is the 'hypothesis of no differences'. It predicts that the IV will not affect the DV. It predicts that results will simply be due to chance, e.g. there will be no (significant) difference in reaction times as a result of alcohol consumption.

For example:

- There is no difference between work produced in noisy or silent conditions.
- There is no relationship between age and intelligence.

One of these hypotheses will be supported by the findings.

Activity 2 – Hypotheses.
Questions

Does Noise affect Memory?

- The variable we are going to change (the IV) is noise.
- The variable we are going to measure (the DV) is performance on a memory task.
- You will need a radio and two lists of words each.
- You need 2 groups of equal number: Group N (noise) and Group S (Silent).
- Group N should have the radio playing very loudly when they are shown the list of words. They have 1 minute to try to remember them and then 1 minute to write them down.
- Group S should do the same task, in silence, with the second list of words.

1. Imagine you are going to carry-out the experiment outlined above. Write a hypothesis for it.

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……

2. State whether your hypothesis is directional or non-directional and explain why you choose this kind of hypothesis.

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……

3. For each of the following, decide whether it is a directional or a non-directional hypothesis.

a. Boys score differently on aggressiveness tests than girls.

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b. Students who have a computer at home do better in exams than those who do not.

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……

c. People remember the words that appear early in a list better than the words that appear later.

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d. People given a list of emotionally charged words recall less than participants given a list of emotionally neutral words.

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……

e. Hamsters are better pets than budgies.

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……

f. Words presented in a written form are recalled differently from those presented in a pictorial form.

……
……

4. Now write your own. For each of the following experiments, write a directional and a non-directional hypothesis, and a null hypothesis:

a. A study to find out whether girls watch more television than boys.

Directional:

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……

Non-Directional:

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Null:

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b. A study to see whether teachers give more attractive students higher marks than students who are less attractive.

Directional:

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Non-Directional:

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Null:

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c. A study to investigate whether lacks of sleep affects homework.

Directional:

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Non-Directional:

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Null:

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……

Activity 3
Experimental Method

Aim

To gain an understanding of the different experimental methods Psychologists use in psychological research.

Learning Objectives

By then end of this activity you…

- **Must be able to define the terms Laboratory experiment and field experiment.**
- **Should be able to identify these types of research from examples of psychological research.**
- **Could be able to explain some strengths and weaknesses of these methods.**

Duration

25 – 40 minutes

Activity 3 – Experimental Methods Introduction

Laboratory Experiment Definition:
This is a type of experiment which takes place in a highly controlled environment with highly controlled conditions. The term 'laboratory' does not mean that the study takes place in a traditional laboratory. A laboratory here is a controlled environment.

Here, the researcher directly manipulates the IV to see its effect on the DV.

Field Experiment Definition:
This takes place in a natural setting.

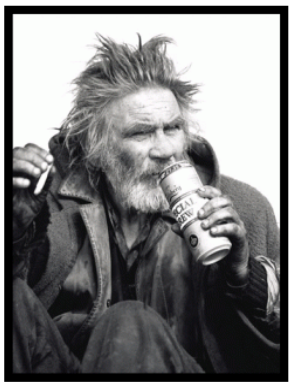
The researcher still directly controls the IV to see its effect on the DV, but has less control over the variables due to the environment in which the research is conducted.

Examples
Laboratory Experiment:
Stroop (1935) carried out a well-known series of laboratory experiments. He studied how colour-name words have an interfering effect on the time taken to name the ink colours of non-matching colours. For example, naming the ink colour of the word 'blue' written in green ink takes longer than it does for the same word written in blue ink. This effect has become known as 'The Stroop Effect' (See Right).

The Stroop Test

List 1	List 2
Green	Blue
Blue	Red
Red	Green
Blue	Purple
Red	Green
Green	Red

Field Experiment:
Bickman (1974) left a dime in a telephone box. If the experimenter was dressed in a suit, he got the dime back 77% of the time; if he was wearing unkempt work clothes, there was a 38% return rate.



Bickman also found that New York pedestrians were more likely to obey someone dressed as a guard than someone in a milkman's uniform or casually dressed. The confederates issued orders to passers-by to:

- 'Pick up this bag for me';
- 'This fellow is over-parked at the meter but doesn't have any change; give him a dime', or:
- 'Don't you know you have to stand on the other side of the pole.

In these experiments, the IV is the appearance and the DV is the helping behaviour.

* **Note** – the psychologist has control over the variables in both experiments. The difference is that in the laboratory experiment, the researcher can control the environment, whereas in the field experiment the researcher can't control environmental factors like noise levels, behaviour of by-passers, participant characteristics (e.g. age, gender etc).

Activity 3 – Experimental Methods Questions

It may help you to understand the difference between lab and field experiments by looking at the examples below. Don't forget to answer the 8 questions on the next page!

Experiment A:

Helping behaviour was investigated in a study on the New York subway. A confederate collapsed on a subway train and investigators noted whether help was offered. The confederate was either holding a black cane or carrying a paper bag with a bottle of alcohol and smelled of alcohol (thus appearing drunk). *Piliavin et al.* (1969) found that when the victim carried a cane, 95% of bystanders helped within 10 seconds; if he appeared drunk, help came in only 50% of the trials.

Experiment B:

Participants were asked to wait in a room before the experiment began. There was a radio playing either good or bad news, and a stranger was present. When participants were asked to rate the stranger, the degree of liking was related to the kind of news they had been listening to, showing that people are attracted to others who are associated with positive experiences. (Veitch and Griffin, 1976)

Experiment C:

The Participants were children aged 3-5 years old. Each child was taken on their own to a special room where there were lots of toys including, in one corner, a 5 foot inflatable Bobo doll and a mallet. The experimenter invited the 'model' to join them and then left the room for about 10 minutes. Half of the children watched the model playing aggressively with a life-sized Bobo doll while the others watched the model play non-aggressively with the doll. Later they were given an opportunity to play with toys, including the Bobo doll, and were observed through a one-way mirror. The children who saw the aggressive behaviour were more likely to behave aggressively. (***Bandura et al,*** 1961).

Experiment D:

One group of school pupil were given information about how their peers had performed on a maths task. They were either told that their peers had done well or that they had done poorly on the test. The children were later given a maths test in class. Those who expected to do well did better than those led to expect they would do poorly. (***Schunk***, 1983)

Activity 3 – Experimental Methods

Look at experiments a, b, c and d from the previous page and answer the following questions to see if you can distinguish between 'Lab' and 'Field' experiments:

1. Identify the IV and the DV.
2. Was the task required of the participants artificial?
3. Was the study conducted in a natural setting?
4. Was the setting in high or low in ecological validity (high = similar to a real-life task/ situation; low = an artificial task/ situation)?
5. Did the participants know they were being studied?
6. Were the participants brought into a special (contrived) situation, or did the experimenter go to them?
7. What relevant variables might have been controlled (i.e. extraneous variables)?
8. Do you think this was a lab or field experiment?

	Experiment A	Experiment B	Experiment C	Experiment D
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

Activity 4
Experimental Design

Aim

To gain an understanding of the ways in which psychologists allocate their participants to groups, in order to conduct a fair test.

Learning Objectives

By then end of this activity you…

- **Must be able to define the terms Independent Measures; Repeated Measures and Matched Pairs Design.**
- **Should be able to identify these types of design from examples of psychological research.**
- **Could be able to explain some strengths and weaknesses of these methods.**

Duration

25 – 40 minutes

Activity 4 – Experimental Design Introduction

Experimental Design Definition:
Psychologists must allocate their participants to groups to ensure that they can control differences between the participants (e.g. age, gender, IQ etc). Without this control, the experimental results would be jeopardized.

The three main experimental designs are:

- **The Independent Groups Design**
  (Different participants are used in each condition of the experiment).

- **The Matched Participants Design**
  (Participants are matched in each condition on variables relevant to the experiment).

- **The Repeated Measures Design**
  (The same participants are used in each condition of the experiment).

Examples of Experimental Design:
Psychologists wanted to find out if caffeine consumption affected reaction times. They gave one group 2 cups of coffee and timed how quickly they reacted to the presentation of a red dot on a screen. The second group did the same task but didn't consume any coffee.

Using Independent Groups Design:
Participant 1 is allocated to Condition A – The Caffeine Condition. He/She will drink 2 cups of coffee then do the reaction test.

Participant 2 is allocated to Condition B – The Non-Caffeine Condition. He/She will not drink any cups of coffee then do the reaction test.

Both participants' scores are compared to each other.

Using Matched Participants Design:
The same procedures as Independent Groups apply, whereby Participant 1 will be in Group A and Participant 2 will be in Group B. However, they will be matched on important characteristics like (in this case) age, gender, and physical fitness. This way – we have different participants in each group but they are very similar. This makes comparing results easier.

Using Repeated Measures Design:
Participant 1 will do condition A – The Caffeine Condition. He/She will drink 2 cups of coffee then do the reaction test.

AFTER A REST PERIOD OF 1 WEEK

Participant 1 (the same participant) will then do Condition B – The Non-Caffeine Condition. He/She will not drink any cups of coffee then do the reaction test.

The Psychologist will compare Participant 1's results from his/her Condition A performance to his/her time from her Condition B performance.

Summary of Experimental Design

Experimental Design	Example		Strengths and Weaknesses
Repeated Measures Same participants in each condition.			✔ Good control for participant variables ✔ Fewer participants ✖ Order effects (e.g. boredom, practice). ✖ Participants guess the purpose. ✖ Time-consuming. ✖ Lost participants.
Independent Groups Two (or more) groups of participants - one for each condition. Each group is made up of different individuals.			✔ Avoids order effects ✔ Avoids participants guessing he purpose of the experiment. (Demand Characteristics) ✔ Saves times. ✖ Needs more participants. ✖ Lacks control or participant variables.
Matched Participants Groups made up of different individuals, but they are carefully matched on key participant variables to make the groups similar.			✔ No order effects. ✔ Participant variables partly controlled. ✔ Time saved. ✔ No demand characteristics. ✖ Matching is difficult. ✖ More participants needed.

Activity 4 – Experimental Design

1. For each of the following experiments, state whether it is a repeated measures or an independent groups design.
To do this, ask yourself, 'Would the findings be analysed by comparing the scores from the same person or by comparing the scores of two (or more) groups of people?

a) Boys and girls are compare on their IQ test scores.

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b) Hamsters are tested to see if one genetic strain is better at finding food in a maze than another group.

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c) Reaction time is tested before and after a reaction time training activity to see if test scores improve after training.

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d) Participants are tested on a memory task in the morning and in the afternoon.

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e) Three groups of participants are each asked to remember different word lists (one with nuns, one with verbs and one with adjectives) to see which is easier to recall.

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f) Participants are asked to give ratings for attractive and unattractive photographs.

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2. *A Psychologist conducted a study to see whether visual imagery helps memory. To do this, there were two lists to be recalled – one had words only, the other had images instead of words.*

a) Describe how you could conduct this study using

Ψ A Repeated Measures Design.

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Ψ An Independent Measures Design

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Ψ A Matched Pairs Design

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b) Which design would be best? Explain your answer.

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Activity 5
Sampling Techniques

Aim

To gain an understanding of the ways in which psychologists gain a sample in order to conduct research.

Learning Objectives

By then end of this activity you…

- **Must be able to define the terms Random; Volunteer; Systematic and; Opportunity Sampling.**
- **Should be able to identify these techniques from examples of psychological research.**
- **Could be able to explain some strengths and weaknesses of these techniques.**

Duration

25 – 40 minutes

Activity 5 – Sampling Techniques
Introduction

Psychological Researchers want their findings to apply to a much larger group of people than those acting as participants. In technical terms, the participants selected for a study form a **sample** taken from some larger population (called the target or sample population), which consists of all the members of the group from which the sample has been drawn.

Psychologists use a number of sampling techniques to try to obtain representative samples:

- Random Sampling
- Opportunity Sampling
- Volunteer Sampling
- Systematic Sampling

Random Sampling
Truly random sampling only occurs when every member of the target population has an equal chance of being selected. For example, putting the names of very member of the target population in a hat and pulling a sample out (without looking).

Opportunity Sampling
This simply involves selecting those participants who are wound at the available time. For example, university psychologists may sample from their students.

Volunteer Sampling
Volunteer samples consist of those individuals who have determined their own involvement in a study, for example volunteers who respond to advertisements for studies.

Systematic Sampling
This is where members of the target population are picked on the basis of some system. A sample of students, for example, could include every tenth person on the school register. This is not to be confused with a random sample, since only those in the relevant position on the roll can be selected.

Activity 5 – Sampling Techniques Questions

In each of the studies below, identify the sampling technique used, choosing from:

Random Systematic Volunteer Opportunity

1. A student research group is interested in a possible relationship between age and attitudes to the use of drugs. People are stopped in the street and asked to complete a questionnaire.

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2. A psychologist is investigating attitudes of English schoolchildren to learning French. At a local high school, he gives a questionnaire to the third boy and the third girl in each of the class registers.

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3. A psychology student carrying out a study on the effects of stress on problem-solving puts a notice up on a college notice board asking people willing to take part on her study to sign up.

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4. Students in a psychology class have been asked to carry out a memory test on one participant each. Some people ask in the library and the study area, some ask those in the canteen, while others go to find participants in the common room.

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5. A psychologist sent an email to all her psychology students to ask them to take part in an experiment investigating the link between happiness and hours of television watched.

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6. A psychologist took all the names on a school register and put them into a random number generator. He selected 50 of these names to take part in an experiment investigating the effects of noise on stress-levels.

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Summary Activities 1 & 2

Aim

To apply the knowledge gained from activities 1 – 5 to examples of psychological research.

Duration

1 hour - 1 hour 30 minutes

Summary Activity 1

The teacher in a small secondary school wanted to find out whether there was any truth in her idea that students who used a computer regularly for their homework achieved higher exam grades than those who did not.

She asked all the students on the school register whether or not they had a computer. From the responses she selected 50 students from each group, from a hat. She then gave the students a standardised test and compared their results.

1. Write a directional hypothesis; non-directional hypothesis and; null hypothesis for this research.

Ψ Directional Hypothesis:

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Ψ Non-Directional Hypothesis:

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Ψ Null Hypothesis:

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2. Which sampling method did the researcher use?

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3. Name and describe two different methods that the teacher might have used to select her sample (i.e. 2 sampling techniques).

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4. Identify the Independent and Dependent Variables.

- Independent Variable

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- Dependent Variable

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5. Identify two possible extraneous Variables:

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6. Identify the Experimental design used:

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Summary Activity 2

A psychology class wishes to investigate the effects of emotional factors on recall. Some research suggests that exercise leads to better recall whereas other research suggests that recall is less good in when exercising. In order to investigate whether exercise is associated with better or less good recall they decide to test recall under two conditions.
Odd numbers on the school register were allocated to Group 1 (i.e. students 1,3,5 etc) and even numbers were allocated to group 2 (i.e. 2,4,6, etc).

Group 1 will be given a list of words to remember - the participants in this group will be asked to run on the spot while learning the list. Group 2 are given the same list to remember but remain seated during the learning period.

An hour after learning the list, all participants are invited back and asked to write down all the words they can remember.

1. Write a directional hypothesis; non-directional hypothesis and; null hypothesis for this research.

- Directional Hypothesis:
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- Non-Directional Hypothesis:
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- Null Hypothesis:
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2. Which sampling method did the students use?
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3. Name and describe two different methods that the teacher might have used to select her sample (i.e. 2 sampling techniques).

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4. Identify the Independent and Dependent Variables.

- Independent Variable

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- Dependent Variable

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5. Identify two possible extraneous Variables:

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6. Identify the Experimental design used:

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