

Psychology as a Science?

WELCOME!

Here is your top guide to the debate called 'Psychology as a science?' This document will easily print out to be kept in your file for revision. However, you will need to look at it on-screen to follow the links to suggested websites.

STOP! Before you can argue whether or not psychology is a science you first need to think about two questions:

- ✓ What is "science"?
- ✓ What is "psychology"?

What is "Science"?

There are many different concepts of science. Look at these websites and as you go through note down some specific characteristics of science.

- ✓ Diagram of the scientific method
http://phyun5.ucr.edu/~wudka/Physics7/Notes_www/node6.html
- ✓ Characteristics of scientific method
http://teacher.nsrj.rochester.edu/phy_labs/AppendixE/AppendixE.html
- ✓ This site is a little wordy but read through it and look out for key terms about science
http://en.wikipedia.org/wiki/Science#Scientific_method
- ✓ Look at this site to find out more about goals of the scientific method:
<http://www.alleydog.com/101notes/methods.html>
(Tip: Scroll straight down to section IV for the Science bit)

The main goals of a scientific method are:

- ✓ Observation
- ✓ Hypothesis
- ✓ Experimentation
- ✓ Analysis
- ✓ Conclusion and Theory.

Look at this site to find out more:

http://seasproject.disl.org/oldsite/new_page_3.htm

The following website is a great interactive site to help you understand the characteristics of the scientific method by applying it to an example:

http://biology.clc.uc.edu/courses/bio104/sci_meth.htm

Other essential characteristics of science include replication, control and Popper's falsifiability concept. These will be looked at later in this document.

Many would argue that for psychology to be called science it needs to display all these characteristics of science. Does psychology display all these? Therefore, can it be called a "science"?

What is "Psychology"?

The word psychology comes from the Greek words "psyche" (meaning soul) and "logos" (meaning study). Therefore, a basic definition of psychology could be: the study of the soul.

It is broadly agreed that psychology is the study of behaviour and the mind. The main aim of psychology is to describe, predict, understand and control/modify behaviour.

Look at these websites and write down some key points about what psychology is:

- ✓ This site gives a brief summary of psychology with the 5 basic goals.
<http://allpsych.com/psychology101/intro.html>
- ✓ What is psychology?
<http://www.psypress.co.uk/common/supplementary/184169309x/3-4.pdf>
- ✓ This site talks about psychology and also touches on the debate of 'Psychology as a Science?'
<http://psy1.clarion.edu/mm/General/Intro/Introduction.html>
- ✓ This site talks about what psychology is and some of the aspects of 'Psychology as a Science?'
http://www.psychnet-uk.com/training_ethics/whatispsych.htm

So, now you've looked at what psychology is, you can ask whether or not it can be called a science.

ACTIVITY: Now that you have been through all the information and websites above, can you define 'science' and can you define 'psychology'?

Write:

- A short paragraph describing the main characteristics of 'science'.
- A short paragraph defining 'psychology'.

Remember this would only form part of the introduction to your essay/exam answer so you will not need to write a lot. Your main focus will be arguments for and against 'Psychology as a Science?'

Now lets get into the 'nitty-gritty'!

The Experimental Method in Psychology

It can be argued that psychology is scientific because research can be carried out using the experimental method. This is just one form of scientific research.

Let's revise the experimental method in psychology. As you go through, note down some points you could use in an argument for psychology as a science.

- ✓ Revise what the experimental method in psychology is
http://www.holah.karoo.net/experimental_method.htm
- ✓ This site gives a basic outline of the experimental method in psychology
<http://allpsych.com/psychology101/experiment.html>
- ✓ This site gives some reasons why psychology can be described as a scientific method, and gives some examples of psychological research.
<http://www.terramir.net/index2.html>
- ✓ You can also look back to your work on Module 3: Research Methods in Psychology from last year. Use this link to get to the Module 3 resources page on the PsYonline website:
<http://psyonline.edgehill.ac.uk/weblinks.php?module=6&modtopics=24&modt=>

ACTIVITY: Thinking about the experimental method, pick out and write about three key points that demonstrate psychology as scientific.

ACTIVITY: Think about some other specific characteristics of science and how psychology fits in with these. Here is an example:

Control

Scientific methods need to control for extraneous variables (variables which have an undesired effect on what is being investigated). Take a look at this site to find out more about extraneous variables and what can be done to control them:

<http://web.umn.edu/~psyworld/extraneous.htm>

Now write down one example of an extraneous variable in a psychological experiment and suggest a way that this can be controlled.

Control is just one way the scientific method is demonstrated in Psychology. Think back over your course. Can you think of any other characteristics of science and how they demonstrate psychology as science?

Here's one to get you started:

- ✓ Replication – What is it? How does psychology demonstrate it? Use an example of a psychological study to demonstrate this aspect.

Arguments AGAINST psychology as science

AGAINST

Kuhn (1970) - Concept of a paradigm

Kuhn would argue that psychology is not a science because it doesn't fit in with the 'normal science' paradigm.

A paradigm is a set of assumptions, concepts, values and practices that affect the way reality is viewed.

Kuhn states that there are three stages in science:

1. *Pre-science* - before a paradigm has evolved and there are numerous ways of thinking around.
2. *Normal science* - a paradigm has emerged and dictates what is to be studied and how results are to be interpreted in relation to the paradigm.
3. *Revolution* - conflicting evidence makes a *paradigm shift* necessary where the old paradigm is replaced by a new one.

Where does psychology fit into these stages?

Kuhn argues that psychology is at the pre-scientific stage as there are a number of different schools of thought in psychology, e.g. behavioural, psychodynamic and cognitive psychology.

However, Palermo (1971) believes that psychology has been through several paradigm shifts, like behaviourism and introspection, so is now in the revolution stage and can therefore be considered a science.

Popper (1959) - Falsifiability

AGAINST

Popper would say that psychology is not a science because some of its theories are not falsifiable. He proposed that for a theory to be scientific it must be possible to show evidence that the theory is false - even if that evidence is not observed.

Take a closer look at what is meant by falsifiability:

<http://en.wikipedia.org/wiki/Falsifiability>

Think about Freud's dream interpretation concept. Some would argue that this concept can be neither proved nor disproved (i.e. cannot be falsified). Therefore Popper would argue that because this is not possible, the theory is not scientific.

ACTIVITY

Think of two psychological studies which can be falsified, and two that cannot be falsified. Now write a short paragraph about these in your notes.

ACTIVITY

Now that you have looked at some arguments for and against psychology as a science, create a revision table with two columns. In the left column summarise arguments for and in the right column summarise arguments against psychology being a science.

Now, can you think of any others arguments for or against? If you can, add these to your table.

Exams tips and advice

Make sure you can *briefly* describe key aspects of *science* and *psychology*, giving examples of psychological research for each aspect.

Remember to keep referring back to the question – is it asking you to argue *for* or *against* psychology as science? If both, try to balance your argument giving examples both *for* and *against* the debate.

Don't forget to end your essay with a *conclusion*. You should back up your conclusion by referring back to the evidence you have presented in your essay.

Don't forget the Exam Tips in the Study Area of the PsYonline website. You can use these links to take you straight to them:

- ✓ Top tips for Module 5 answers:

<http://psyonline.edgehill.ac.uk/TopTips.php?module=13&modtopics=132>

- ✓ AQA Exam Tips:

<http://psyonline.edgehill.ac.uk/OpenDocument.php?Document=AQA%20Exam%20Tips>

GOOD LUCK!