Psychology A Science Essay, Research Paper

In order to answer this question it is important to understand the

definitions of both psychology and science. The word ‘psychology’ comes

from the Greek ‘psyche’ (or soul) and ‘logos’ (or study), which came to be

known as the ’study of the soul’. The American Heritage Dictionary defines

psychology as:

1. the science dealing with the mind and with mental and emotional

processes

2. the science of human and animal behavior.

In its pure definition the dictionary has provided us with a clue to the

answer, it describes science as:

1. systematized knowledge derived from observation, study, etc.

2. a branch of knowledge, esp. one that systematizes facts, principles, and

methods

3. skill or technique

In order to prove this claim we have to look at whether or not psychology

can fill this definition above.

Scientific study is a valid way of coming to an understanding of life, and

can be very useful in every area of life. Science develops theories based

on what is observed. It examines each theory with rigorous and scrupulous

tests to see if it describes reality. The scientific method works well in

observing and recording physical data and in reaching conclusions which

either confirm or nullify a theory.

During the mid-19th century, scholars (although at that time probably

termed philosophers) wanted to study human nature with the aim of applying

the scientific method to observe, record, and treat human behavior that was

deemed as unnatural. They believed that if people could be studied in a

scientific manner, there would be a greater accuracy in understanding

present behavior, in predicting future behavior, and, most controversially,

in altering behavior through scientific intervention.

There are many areas of psychology, each attempting to explain behavior

from slightly different perspectives;

Social psychology is concerned with the effects of social situations on

human behavior.

Personality theorists study individual behavior.

Comparative psychologists study animal behaviors across the range of

species

Physiological psychologists are concerned with the biological basis of

behavior.

Developmental psychologists study principles and processes responsible for

change throughout life.

Cognitive psychologists investigate memory, thought, problem solving, and

the psychological aspects of learning.

Analysis of behavior studies the conditions under which a behavior can be

learned and the situations that cause that behavior to occur.

Learning is an area of psychology exploring how new behaviors are learned

and maintained.

Clinical psychologists study ways to help individuals and groups of

individuals change their behavior.

Industrial and organizational psychologists are concerned with the physical

and social aspects of people’s work environments as they affect work

output.

Community psychologists use scientific methods to study and solve social

problems.

As Western describes, the psychological paradigm is a collection of

assumptions used to make sense of a subject area or experience, this can be

applied to psychology itself. Psychology lacks one unified paradigm but

has four perspectives that search for its understanding;

The pyschodynamic perspective believes that behavior is a result of

unconscious processes, personal motivation and early childhood experiences.

It’s most famous advocate was Sigmund Freud. Its method of data

collection rely heavily on interpreting discussion, dreams and fantasies,

actions, case studies and a limited amount of experimentation.

The behaviorist perspective believes that behavior is learned and selected

by environmental consequences. Its method of data collection relies

heavily on experimentation conducted in the scientific laboratory where the

factors studied can be controlled; or it may take place in a real life

setting where more natural behavior is studied and far more variables

exist.

The cognitive perspective believes that behavior is a result of information

processing, storage in the brain, transformation and the retrieval of

information. The methods of data collection used are again experimentation

but with much use of computer modeling.

The evolutionary perspective believes that psychological processes echo the

evolutionary processes of natural selection. Its method of data collection

includes the deduction of explanations for behavior, and comparisons

between species and cultures. It also involves a limited amount of

experimentation.

Of these four perspectives all lend common similarities to the traditional

sciences. All have elements of controlled experimentation, as does physics

or chemistry. Cognitive perspectives use computer modeling, as does

mathematics. There are similarities, but there are also differences to any

other sciences, such as the study of dreams and fantasies.

The methods of experimentation and research in psychology is completed on a

scientific basis. Psychological experimental research would involve the

manipulation of a situation to examine the way in which the subjects of an

experiment react, in order to observe cause and effect. The experimenter

manipulates independent variables and the subjects responses would prove

the dependant variables. By measuring the subjects responses, the

experimenter can tell if the manipulation has had an effect.

Psychological hypotheses are sought to operationalise – to turn an abstract

concept into a concrete argument. This process is scientific in its

element. The hypothesis is framed, variables are operationalised

separately, a standard procedure is developed that is maintained throughout

the experiment, subjects are scientifically selected, results are tested

and conclusions drawn.

Control groups are often used, similar in essence to control chemicals used

in chemistry. These control groups are not exposed to the manipulation but

instead to neutral conditions, providing a standards to compare results.

In some cases researchers carry out blind studies where subjects are kept

unaware of the aspects of the study. Double blind studies have been used

in the past where the researchers are kept blind too.

A scientific subject knows its own limitations. Psychology attempts to

study complex phenomena in laboratory and field situations where validity

is called into question. Results contrast with differing personal

understandings of researchers which will always differ to some extent. In

a physical science a variance of error may be intolerable above 2%, in

psychology 50% may be an acceptable level.

Every psychological experiment and theory is evaluated with the same level

of criticality as that of the traditional sciences. Questions are asked

over the theoretical framework, the results validity and its relationship

with the hypothesis, the quality and range of sample and if it is

representative, the conclusions that can be drawn form the data and broader

conclusions that may be apparent. Finally the studies are questioned on

their meanings and ethics to operationalise the original hypothesis.

Psychology has adopted the scientific mode. However, from a strictly

scientific point of view, it has not been able to meet the requirements of

true science.

In attempting to evaluate the status of psychology as a scientific study,

the American Psychological Association appointed Sigmund Koch to conduct a

study, employing over eighty noted scholars in assessing the facts,

hypotheses, and methods of psychology. In 1983, the results were published

in a series entitled ‘Psychology: A Study of Science’. Koch describes what

he believes to be the delusion in thinking of psychology as a science:

The truth is that psychological statements which describe human behavior or

which report results from tested research can be scientific. However, when

there is a move from describing human behavior to explaining it there is

also a move from science to opinion.

Here it is important to make the distinction between psychology and

psychiatry. Academic psychology is a scientific project, initiated by

Wilhelm Wundt at the University of Leipzig at around 1885. His work was the

study of the average adult human mind, and the scientific method used was

introspection. His approaches have long since been abandoned, as have many

of his ideals, but not the basic idea of understanding and describing human

functioning within a scientific context.

Psychotherapy, on the other hand, is no more a science than that of civil

engineering. Ideally, scientifically investigated therapeutic techniques

and methods are used together with ethical and philosophical principles in

order to achieve a desired outcome. Psychotherapy, then, is a mixture of a

craft and an art and may not be called a science.

Psychology breeds many conflicting explanations of man and his behavior.

Psychologist Roger Mills, in his 1980 article, “Psychology Goes Insane,

Botches Role as Science,” says:

“The field of psychiatry today is literally a mess. There are as many

techniques, methods and theories around as there are researchers and

therapists. I have personally seen therapists convince their clients that

all of their problems come from their mothers, the stars, their biochemical

make-up, their diet, their lifestyle and even the “karma” from their past

lives.”

These opinions are describing psychotherapy and not psychology in its core.

Remembering that psychology is the scientific study of the behavior of

humans and animals, we should look at their methods of study. As we have

seen, psychologists use scientific methods in an attempt to understand and

predict behavior, to develop procedures for changing behavior, and to

evaluate treatment strategies.

Mitchell and Jolley discuss the question of whether psychology is a science

in the first chapter of their text ‘Research Design Explained’ (3rd

Edition). Their conclusions support the claim that psychology is a

science. They discuss the facts that psychology produces objective

evidence that can be replicated (replicated with the same success as

physics and chemistry experiments). That it unearths observable, objective

evidence that either supports or refutes existing beliefs and creates new

knowledge. And that psychology is open-minded about claims, even those

that go against common sense and sceptical about ideas that, even though

they make sense, have not been supported by any research evidence.

If we can define a science using subjective methods then Psychology is

definitely a science. Psychology represents an empirical science, its

methods demanding empirical testing of hypotheses.

Many empirical results of psychology are subject to personal interpretation

and intense dispute. This can be seen as a function of the phenomena that

is psychology. But the key to resolving these disputes is to turn back to

the empirical methods and pit alternative interpretations against each

other.

References

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