

Introduction

Public Beliefs About Psychology

1.1 Introduction

Psychology is a new science – barely 140 years old. It has an official “birth date” of the 1880s in Germany. With new methods and discoveries we understand more and more about such things as how the brain operates, why people behave the way they do, and the causes of human unhappiness. In fact psychology looks as if it is on the edge of some great discoveries thanks to developments in neuroscience, statistics, and data gathering.

What people who study psychology often say is that it gives you an “aha” experience. “Aha” is the expression of surprised happiness that comes with insight. “Aha” experiences often occur when psychology can offer explanations for seemingly bizarre or irrational behavior: why people spend money when depressed; why anorexics starve themselves; why clever people make such bad decisions.

Psychology provides a rich vocabulary through which it can describe and explain behavior. Psychological terms like passive-aggressive, obsessive-compulsive, and self-actualization are part of many individuals’ vocabulary.

There is a joke about “psychobabble,” which is the misuse or overuse of psychological language and concepts, but this usually occurs only in the popular press and by non-psychologists. Some psychological theories are counterintuitive – that is, a number of the theories are not what common sense suggests. Some theories are quite commonsensical but there are also several that are not. Nevertheless, many skeptics and some cynics have continued to maintain that all the findings in psychology are really only a form of common sense.

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One way to discover the reality of human nature is, according to most psychologists, through scientific experimentation and observation, but lay people do not use scientific evidence when forming their ideas about their fellows. Many believe in superstitions and old wives' tales that have been perpetuated, but never tested, over the generations.

1.2 Public Ignorance About Psychology

It is paradoxical that, with so much media attention on psychological issues, the general public remains so ignorant about a topic. Certainly they seem unable to independently evaluate claims about many pseudo-scientific pursuits like graphology, psychic surgery, subliminal advertising, and the like. So many myths of popular psychology are held by people despite considerable evidence to the contrary. These include: "It is better to express anger than hold it in"; "Low self-esteem is the cause of nearly all psychological problems"; "People of opposite personality type are attracted to one another."

Fortunately there is evidence that if people take courses in psychology they become less likely to hold myths and misconceptions and more critical and skeptical in their thinking (Kowalski & Taylor, 2009; Standing & Huber, 2003).

Many studies have looked at very specific areas to try to understand why people have so many misconceptions. Thus Aamodt (2008) looked at criminal psychology and came to the conclusion that myths were held for various specific reasons.

There are three reasons for public ignorance:

1. *Media* The media often favors sensationalistic rather than factual reporting of science. Further, the media has a "let all flowers bloom" and "anything goes" philosophy aimed at entertainment, not education.
2. *Pseudo-science* A lot of pseudo and bogus science is behind multi-million dollar industries that depend on keeping the public poorly informed about their claims and the fact that they may have been shown to be fraudulent.
3. *Psychologists* When appearing in the media, they are persuaded to favor "sexy soundbites" rather than useful explanations. If they insist on the latter they tend to be edited out of the transmission.

Thus the lay person is presented with confused, contradictory, exaggerated, incomplete, and naïve findings and theories. It is no wonder that some believe that psychology is either just common sense or a matter of opinion.

Stop a hundred people in the street and ask them to name all the psychologists they have ever heard of. The likelihood is that 90% will nominate Freud and about a third Jung. Asked if they can name a living psychologist, only about 5% probably can. This galls modern psychologists because although many are impressed by Freud's insights, intuition, and learning, they see little development in psychoanalysis and are skeptical about total reliance on clinical interviews. More importantly, many have no truck with the pretentiousness of a field that shuns empirical disconfirmation.

Many people cannot distinguish between a psychologist, a psychiatrist, a psychoanalyst or a psychiatric social worker. Some use the work "shrink" or "head doctor" or even "psycho-the-rapist" (Gadon & Johnson, 2009).

Developmental psychologists may join educational departments; social and organizational psychologists may be happier in business schools; physiological psychologists could happily work in a biology department; and even clinical psychologists could be embraced by psychiatrists. This makes things difficult for the lay person, who often thinks psychology is little more than clinical psychology or a discipline whose primary aim is to help people.

Psychology is an amazingly diverse discipline. So diverse that any two psychologists have almost nothing in common. Psychology is an archipelago, not an island. And some think it is drifting apart near to collapse.

Many disciplines study human behavior – sociology, economics, anthropology, history, and so forth – but what makes psychology unique is its scope and methodology. Psychology studies the full range of human (and non-human) behavior from the micro to the macro level.

Second, psychologists use scientific methodology to test their theories. It is the data-based scientific study of behavior (see Figure 1.1). It is a young science and the record of progress is mixed. As Stanovich (1998, p. 21) notes, psychology is an immensely diverse discipline covering a range of subjects that are not tied together by common content. Instead, what unifies the discipline is that it uses scientific methods to understand behavior. The scientific method is not a strict set of rules; instead it is defined by some very general principles. Three of the most important are shown in Figure 1.2.

Psychology still has an image problem for various reasons (Stanovich, 1998). These include:

- Guilt by association. Because psychologists have been interested in testing claims in various pseudo-sciences (clairvoyance, psychic surgery),

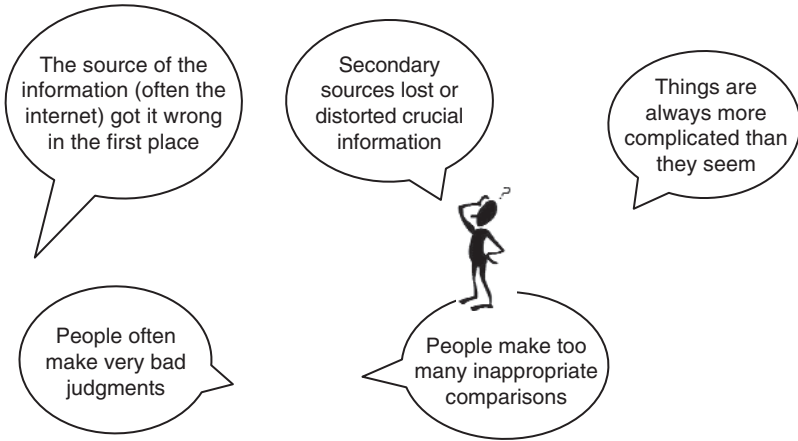


Figure 1.1 Possible reasons for holding myths.

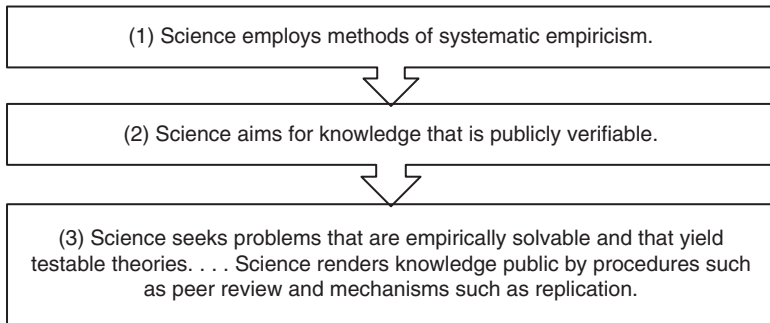


Figure 1.2 General principles of science.

psychology has been associated with them! Psychologists are in a trap: If they refuse to investigate certain problems for fear of being confused with them, they are not true scientists. But if they research issues dispassionately and show pseudo-scientists to be writing nonsense, this association may be seen as confirmation that psychology itself is a pseudo-science.

- Self-help books that commercialize psychotherapy create an inaccurate impression of the aims, methods, and knowledge in psychology. These books are characterized by unrepresentative but vivid case studies, endorsements, and miraculous personal testimonies. Further, they propagate “recipe” knowledge – they show how to follow various steps without explaining why they should work.

- Media psychologists are self-selected, have a poor reputation with academic peers, and respond to the media's love of news, drama, and certainty as opposed to fact. Further, whereas television, radio, and quality newspapers have trained writers in the fields of physics, economics, and medicine, they do not employ trained psychologists. Again, psychologists are often trapped: When they refuse or fail to give glib, simplistic answers to complex problems, they are criticized and devalued, but if they do give such answers they are often misleading.
- The terms “psychologist” and “psychology” are often very loosely used. Often the work of physiological psychologists is mistaken for biology; cognitive psychology for computer science or ergonomics; and health psychology for medicine. Thus, in the eyes of the public, psychology is reduced to counseling and clinical psychology.
- Unscientific attitudes within psychology itself. Psychologists can also rightly be accused of unprofessional behavior and unclear thinking. Further, professional organizations are much more concerned with chartering and licensing than with scientific behaviors. They look more like trade unions than scientific societies. Thus rigorous scientific psychologists and pseudo-scientific speculative commentators sit side by side.
- Everybody is a psychologist. Some believe they have a special, more profound, and perceptive insight into human nature.
- Finally, some people imply that psychology diminishes or dehumanizes psychology. This is a moral or metaphysical objection based on the idea that trying to uncover fundamental mechanisms and processes reduces our wonder and curiosity about human behavior.

1.3 Tackling Student Skepticism About Psychology

Lilienfeld (2012) offered some useful advice for people when they became really skeptical about psychology. “Are you analyzing me right now?” Psychologists are asked this question by students, lay people, or both at some point. Many students and lay persons believe psychology is all Freud analysis all the time. Surveys suggest the general public does not regard our field as scientific. Most students have armed themselves on the first day of lectures with multiple myths and beliefs about what psychology is all about. Lilienfeld (2012) proposes ways to handle some of these spurious claims.

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Myth 1: Psychology is merely common sense

- Students, on their first days, can generate a number of beliefs they find intuitive and obvious: opposites attract; we use only 10% of our brain; gut instincts are usually correct. Yet all of these assertions are false – or at best very poorly supported.

Combating the common sense myth

- So, how to debunk these spurious claims? Provide students with research that contradicts these beliefs. Introduce them to *hindsight bias*, which is the tendency to perceive outcomes as foreseeable once we know them. Once we learn of a psychological finding, it suddenly appears self-evident.

Myth 2: Psychology is not a real science

- Students perceive the psychological discipline as incomparable with that of “hard sciences.” Therefore, it must be far less scientific! Why do students assume this? Hard sciences use objective measures such as volts or chemical levels that make self-reports seem flawed by subjective artifacts such as memory bias. Real sciences are perceived to be defined by exacting research designs. Students assume replicability in psychology cannot match that of a hard science.

Debunking the soft science myth

- Point out to students that subjectivity does not mean unscientific. Ample data and studies demonstrate the validity of self-reports.
- Discuss how psychology safeguards against human error. Point out how fields in psychology routinely use randomized control groups and blind studies. Psychology also has a reliance on sophisticated statistical methods, from multiple regressions to structural equation modeling.
- Psychology’s lack of replicability may be overstated. Hedges (1987) found particle physics results were no more replicable than those in psychology. Psychology also has more active scholars addressing potential problems with the replicability of their findings.

Myth 3: Psychology is not useful to society

- Despite teachers’ efforts, some students still miss how psychology applies to everyday life. The role of biology in health seems clear.

The role of engineering in building bridges seems obvious. As the wide breadth of psychology is not apparent to most students, they assume it has no clear role.

Earning a place in society

- From the multitudinous range of real-world applications you know, select a few that will resonate with your students. Psychology is used to standardize tests for university and graduate admission, as well as personal selection tests for employees. Perception researchers apply their field to improving the safety of vehicles and other apparatus. Cognitive psychologists use heuristics to influence the world of marketing, negotiation, and sales.
- Even in the field of science, psychology has yet to receive recognition. Social science has always been seen as a “soft” science. Even though psychologists often emphasize the importance of being empirical and testable in their theories, psychology is still not recognized by the Nobel Prize. In 2002, the psychologist Daniel Kahneman received a Nobel Prize for his studies in decision making. Although these studies were heavily psychological, his award was made in the field of economics.

Myth 4: Psychologists and psychotherapists are the same

- Most students and their parents perceive psychologists and psychotherapists to be extremely similar. In one study, students estimated that 56% of psychologists were in private practice, whereas the actual figure is 39%.
- Part of the issue is that psychologists are confused with other “helping” professionals.

Knowing a coach from a couch

- Draw attention to the misleading coverage of psychologists by the entertainment media. Many films use the terms psychologist and psychiatrist interchangeably.
- Share information with your students about the different roles of different psychological disciplines.

Myth 5: Psychology is pretty useless – it cannot make good predictions

- Students recoil when their frantically shouted out questions are answered with the phrase “it depends.” This can frustrate students

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into thinking psychological research cannot predict anything with certainty. They may also be dismayed by studies predicting a small percent of variance or when correlations do not exceed $r = .30$. Clearly, the consensus is that psychology is not powerful enough to predict behavior well.

Showing off its strength

- Remind students of psychology's high "causal density," which is far higher than other hard sciences!
- Statistical associations tend to be context dependent. For example, the relationship between divorce and negative outcomes in children is contingent on a myriad of variables. As a result, it is potentially impossible to apply a firm numeric value to this prediction.
- This incompleteness stems in part from the sheer number of moderating variables, as well as our lack of knowledge of their impact.

Myth 6: Psychology is pretty useless – everyone is unique, so how can it predict behavior?

- We are constantly told, from primary school into our working lives, that we are individual, unique, one of a kind. So students now assume psychology cannot generate meaningful generalizations as a result. For example, if every person with depression is slightly different, how can we outline underlying and universal treatments that are effective?

The fallacy of uniqueness

- Psychologists understand and value the uniqueness in living things. The aim of psychology is to decode human thoughts and behavior in the hope of generating theories and models that can be applied to the majority of people. Various research methods have been developed to look at individual differences. For instance, research in differences in gender, age, race, and culture has certainly demonstrated psychologists' effort in valuing human uniqueness.
- The reality is that unique variables may be irrelevant to the underlying mechanisms of the treatment. Use vivid examples to debunk this rumor: All cases of melanoma are unique, yet 90% can be cured with early surgery. The same is true for psychiatric diagnoses. We do not state that all individuals in a category are alike, just that they are alike in one crucial way: the core signs and symptoms that comprise that category.

General teaching tip

- Acknowledge and address the underlying sources of skepticism. The history of our discipline is characterized by attempting to change misperceptions. But a great more deal needs to be done!

Part of the issue is what students are exposed to:

- Poorly supported or totally inaccurate pop psychology, featured in general-population magazines written by non-professionals.
- Spurious portrayals in media and culture, with the “face” of psychology being personalities such as Dr. Phil McGraw (“Dr. Phil”).
- The sheer multitude of self-help books published without rigorous scientific testing, making claims far beyond the data.

The role of teachers:

- Teachers play a valuable role in educating students about psychology’s scientific side. Many misunderstandings are what we may term “understandable misunderstandings.” Instructors must be prepared to acknowledge the understandable basis of student skepticism and tackle this head on.

As psychology is a part of our everyday lives and is subjectively “immediate,” it is liable to seem intuitively obvious. But familiarity must not be confused with genuine understanding!

1.4 Psychology and Control

Psychologists work in the media and the military. They are employed by advertising agencies, political parties, and others whom some would consider to peddle propaganda. Is psychology about (politically) controlling others? Wars have been good for psychologists. With massive call-ups, psychologists have been heavily involved in selection, training, ergonomic design, welfare, and treatment of both military and civilians. Since World War II (1939–1945), psychologists have made a particular study of such things as interrogation techniques, and the effects of captivity and “brain-washing” or re-educating both captured soldiers and defeated civilians.

This research has provided many benefits, such as an understanding of the significant individual differences in reactions to sensory deprivation and also more recent understandings of post-traumatic stress disorder.

Both sides in war provide propaganda for the people at home as well as the enemy. The aim of propaganda is to change emotions and beliefs about very general issues. It is clearly deceptive, slanted, and enriched with powerful emotional overtones. Further, propagandists attempt to keep failures, “cock-ups,” and reverses “in perspective” and to preserve the credibility of the army and politicians. At times the aim is to keep the public calm but at other times the central aim is to arouse them. Psychologists have been interested in dispassionate research of these issues whereas others have actually been involved in devising propaganda messages.

Advertising may be considered a type of propaganda. It is certainly more persuasive in times of peace: It employs many psychologists and spends vast amounts of money! Psychologists have distinguished between the sources of the message (are they credible, trustworthy, sexy, experts); the message itself (is it clear, vivid, one-sided); the medium (print, radio, television); the audience (are they knowledgeable, sympathetic, attentive) and the situation where they receive it (the home, the movies, a supermarket).

There is a vast and fascinating research literature on consumer behavior: good words to use (new, improved, quick), good pictures (animals, babies), and where best to place products (eye level, end of aisles, check-out) and how to package them (bundles, piled high). Some psychological research in this area has attracted a great deal of attention but little support. A good example is subliminal attention – messages that occur too quickly or faintly to reach conscious awareness but somehow are registered and effective. This was all popularized by Vance Packard’s book *The Hidden Persuaders* (1957). But careful research showed the whole subliminal issue to be, as one reviewer put it, “preposterous, absurd, ludicrous, and laughable.”

However, it has been established that moods do affect purchasing. Hence stores may pump in certain smells (baking bread, pine forests) or play particular music to change or enhance moods and so increase the likelihood of customers purchasing products.

Psychologists have also been active in devising consumer typologies. This is sometimes called psychographics and its aim is to segment actual or potential markets into types based on the values and lifestyles of consumers. Thus one could take any product (cars or cameras) or any setting (supermarkets or the web) and categorize the different types of consumers based not on their demography (age, sex, class) but their psychology

(interest, opinions, values) (Gunter & Furnham, 1992). Marketing psychologists get involved in naming products, which has been shown to be very important. They also carry out research on designing the packaging, suggesting catchy slogans, placing the advertisement – indeed, the whole campaign.

So, to return to our question: Is psychological inquiry dangerous because it teaches us, or worse, it teaches clever psychologists, how to control behavior?

It has always been the ambition of psychology to describe, understand, and then predict behavior. If one can understand the antecedents of behavior it is not difficult to see how one may control them. Psychologists are frequently called in to try to control the spread of alcoholism or delinquency or theft. They are requested to help with social engineering by helping through legal, social or physical means to create environments that prescribe some behaviors and proscribe others. Most people are happy with this but seem far less happy when psychologists work for manufacturers and governments or organizations (the police, the secret service, prisoners' associations) whose aims are somehow more political. Accusations of control are always political in the sense that they have strong value judgments attached to them. Just as the study of physics was responsible for both nuclear power and the nuclear bomb, so the study of psychology may be used for very different purposes.

If understanding and prediction are part of control, then psychologists wish to control a great deal. And individual psychologists, like individual scientists, have very varied political and moral beliefs.

There are psychologists who are both strongly pro-corporal punishment (spanking) and anti-corporal punishment. There are left-wing and right-wing psychologists. There are inevitably what most people would regard as morally good and morally bad psychologists.

The aim of psychology, however, is always the understanding and prediction of behavior.

How psychological findings are used is of interest to psychologists but is not their primary aim. Disciplines such as social policy and administration are much more interested in these questions.

Certainly psychologists believe in “giving psychology away” – not in developing products and processes for certain powerful or wealthy clients

but in helping people in general understand the cause of things. Psychology benefits human welfare by attempting to understand and predict human behavior and publicizing the process through scientific papers and books. It is, in that sense, no different from economics or chemistry.

The idea that we should not research a topic like advertising, or welfare, or consumer behavior because the knowledge might be abused by someone is unacceptable. No topic within the field of human behavior is beyond the legitimate research of psychology.

1.5 How People Get Tricked

Perhaps we can understand why people hold false beliefs and misconceptions by how fraudsters successfully trick them.

Polidoro (1999) has examined in detail the deception mechanisms used in psychic fraud. He claims there are 26 different strategies that are categorized under five headings:

How to be believable

1. Psychics create believable claims – at least to those who believe in these sorts of things.
2. Supernatural psychic powers come from outside forces (e.g., God), so that detractors have to take on the Almighty.
3. Psychics like to appear modest and humble, which makes an audience more sympathetic and likely to overlook various issues.
4. Psychics pretend to be amazed by their own powers because (coming from outside) they do not know if they always work.
5. The more psychic phenomena are consistent (appearing many times in the same guise), the stronger the evidence of genuineness.
6. Psychics produce claims that individuals want to believe because they satisfy emotional needs for healing or contact with dead relatives.
7. Psychics credit their audience/participants with paranormal powers to motivate them.

How to limit and thwart the controls

1. The results of the (magic) psychic demonstrations are not stated in advance so participants do not know what to look for.
2. During the demonstration the original goal is switched slightly to one that escapes the controls.

3. Psychics create chaos to divert attention – or the opposite by being very slow and monotonous to reduce observers' vigilance.
4. Psychics exploit control by preparing for tricks well in advance and getting access to secret information.
5. Psychics exploit inoffensive or reviewable controls that allow a sleight of hand.
6. The subject is allowed to suggest tests and conditions for tests, which gives people confidence but does not increase their powers of detection.

How to perform seeming miracles

1. The psychic appears incapable of fraud by being young, innocent, and incapable.
2. The psychic fails to pass the test designed to determine if the necessary skill is present: this makes him/her innocent of fraud (e.g., he/she physically cannot bend spoons).
3. The psychic appears to have no motivation to deceive: he/she does not look for fame or money and is content with the recognition of the genuineness of his/her powers.
4. The psychic uses familiar objects particularly if borrowed from the audience, so “proving” that no manufacturer’s “gimmicks” are involved.
5. The psychic uses simple methods again so as not to encourage distrust in the audience.
6. The psychic never uses the same method to fabricate the same kind of information. He or she never repeats a trick because it so often relies on the person not knowing what to expect and therefore what to look for.
7. The great fake psychics are improvisers as they need to be able to do things on the spur of the moment.

What to do in case something goes wrong

1. Failure is a proof of genuine paranormal powers: it cannot be a trick.
2. Skeptics produce “negative vibrations” that prevent the phenomenon occurring.
3. Any trickery detected may be attributed to the subject’s desire to please the audience – they could not help themselves because they needed to please the observers.
4. Any trickery detected may be considered proof of genuine powers because the ruse is simply too crude to be mistaken – the psychic did it involuntarily.

How to distort memories

1. The psychic is elusive, making it difficult to remember exactly what went on.
2. The psychic recapitulates often what happened to alter memories.

Certainly, by studying tricks one has a very good idea of why otherwise normal, bright individuals are taken in by them.

1.6 Conclusion

People remain very interested in all things psychological. The average newspaper usually contains, on a daily basis, at least one article reporting some recent finding. However, when exaggerated and misleading headlines are used, lay people will be left with inaccurate and unempirical psychological knowledge.

Lay people often misunderstand psychologists' work. Poorly supported pseudo-science claims are constantly reinforced by the media, leading to ignorance of the field among the general public. Most people often do not realize how practical and influential psychological knowledge can be.

It is untrue that psychologists have mystical power or can read minds, but they study behavior, which allows them to predict behavioral patterns. Does that mean psychologists can control behavior and intercept thoughts subliminally? Knowledge itself is neutral but is susceptible to being misused. Much depends on how psychologists maintain their competence and professionalism, and where they draw the line in the constant battle against psychology being viewed as a pseudo-science.