

FOCUS ON VOCABULARY AND LANGUAGE

Page 15: . . . to remedy their own woes, millions turn to “psychology.” In order to alleviate or fix (*remedy*) their misery, anxiety, grief, pain, and suffering (*woes*), people seek help from “psychology.” (Psychology is in quotes because Myers wants to point out that not everything you think of as “psychology” is part of scientific psychology.)

The Need for Psychological Science

Page 15: Some people suppose that psychology merely *documents and dresses in jargon* what people already know. Some people criticize psychology, saying that it simply reports (*documents*) common sense, or what’s obvious to everyone. Critics suggest that, instead of stating something plainly, psychology translates information into the specialized and obscure vocabulary of the discipline (*dresses it in jargon*). Myers makes it very clear with some good examples that this criticism is not justified and points out that our intuitions about reality can often be very mistaken.

Page 16: How easy it is to seem *astute* when *drawing the bull’s eye after the arrow has struck*. In the sport of archery the task is to shoot the arrow at the red circle in the center of the target (the *bull’s eye*). If we first shoot an arrow, then draw the target so that the arrow is in the center (in the *bull’s eye*), we can appear to be very accurate. Myers uses this analogy to illustrate how the **hindsight bias** (or the *I-knew-it-all-along phenomenon*) can lead us to believe that we are shrewd (*astute*) and would have been able to predict outcomes that we have learned after-the-fact.

Page 16: “*Out of sight, out of mind*” and “*Absence makes the heart grow fonder.*” These two sayings, or expressions, about romantic love have opposite meanings. The first one suggests that when couples are apart (*out of sight*) they are less likely to think about each other (*out of mind*) than when they are together. The second saying makes the point that being separated (*absence*) increases the feelings of love the couple shares (*makes the heart grow fonder*). People who are told that the results of a study support the first expression (*out of sight, out of mind*) see this as mere common sense. People told that the results support the second expression (*absence makes the heart grow fonder*) also say this is obviously true. There is clearly a problem here; relying on common sense can lead to opposite conclusions.

Page 17: . . . that *familiarity breeds contempt* . . . This expression and others are based on many casual observations but are often wrong. For example, is it true that the better you know someone (*familiarity*), the more likely it is that you will dislike the person (*have contempt*)? In fact, research shows that the opposite is probably true. (Your text, again and again, will emphasize the fact that our common sense and intuition do not always provide us with reliable evidence.)

Page 18: . . . *drop a course* . . . This means to stop going to class and to have your name removed from the class list.

Page 18: But scientific inquiry can help us *sift* reality from illusion. Literally, *sift* means to separate finer particles from coarser ones by passing material through a sieve. Myers uses the word *sift* to explain how a scientific approach can separate (*sift*) what is true and factual (real) from what is not real (illusion or fantasy) and how it can take us beyond the constraints (*limits*) of our beliefs, experience, intuition, and common sense. (Be sure you understand what the word *sift* means because Myers uses it quite often.)

Page 18: Underlying all science is, first, a *hard-headed curiosity* . . . Here, *hard-headed* means to be practical, uncompromising, realistic, or unswayed by sentiment. All science, including psychology, is guided by this realistic desire to know (*curiosity*) about nature and life.

Page 18: . . . *leap of faith*. This is a belief in something in the absence of demonstrated proof. Some questions—about the existence of God or life after death, for example—cannot be answered

by science and cannot be scientifically proved or disproved; if a person believes, then it is on the basis of trust and confidence alone (*a leap of faith*).

Page 18: . . . the *proof is in the pudding*. This comes from the expression “*the proof of the pudding is in the eating*.” A *pudding* is a sweet dessert. We can test (or prove) the quality of the dessert (*pudding*) by trying it (*eating*). Likewise, many questions, even if they appear to make little sense (*crazy-sounding ideas*), can be tested using the scientific method.

Page 19: . . . *auras* . . . An *aura* is a bright glow surrounding a figure or an object. Some believe that humans have auras that only those with extrasensory abilities can see. The magician James Randi proposed a simple test of this claim, but nobody who is alleged to have this magical power (*aura-seer*) has taken the test.

Page 19: More often, science becomes society’s garbage disposal by sending *crazy-sounding ideas* to the *waste heap* . . . The use of scientific inquiry can get rid of, or dispose of, non-sensible concepts (*crazy-sounding ideas*) and add them to the long list of other ridiculous claims (e.g., perpetual motion machines, miracle cancer cures, etc.) in much the same way that discarded materials, junk, and other rubbish are disposed of in a garbage dump (*waste heap*). As Myers notes, we need a scientific attitude to separate (*sift*) truth (*reality*) from false assertions (*fallacies*). That means doubting and questioning (*being skeptical*) but not scornful or mocking (*cynical*), and to be accepting of novelty and change (*open*) without being naïve (*gullible*).

Page 19: . . . *then so much the worse for our ideas*. This means that we have to give up, or get rid of, our ideas if they are shown to be wrong (*so much the worse for them*). We have to be humble (i.e., have humility).

Page 19: “*The rat is always right*.” This early *motto* (a phrase used as a maxim or guiding principle) comes from the fact that for most of the first half of the twentieth century psychology used animals in its research (especially in the study of learning). The *rat* became a symbol of this research, and its behavior or performance in experiments demonstrated the truth. If the truth, as shown by the rat, is contrary to the prediction or **hypothesis**, then one has to be humble and try another way.

Page 20: We all view nature through the *spectacles* of our *preconceived ideas*. This means that what we already believe (*our preconceived ideas*) influences, and to some extent determines, what we look for and actually see or discover in nature. It’s as though the type of eyeglasses (*spectacles*) we wear limits what we can see.

Page 20: . . . *gut feelings* . . . This refers to basic intuitive reactions or responses. **Critical thinking** requires determining whether a conclusion is based simply on a subjective opinion (*gut feeling*) or anecdote (a story someone tells) or on reliable scientific evidence.

Page 20: . . . *debunked* . . . This means to remove glamour or credibility from established ideas, persons, and traditions. Myers points out that scientific evidence and critical inquiry have indeed discredited (*debunked*) many popular presumptions.

Page 20: . . . one cannot simply “*hit the replay button*” and relive long-buried or *repressed* memories . . . This is an example of a discredited (*debunked*) idea that hidden (*repressed*) memories can be accurately and reliably retrieved (brought back) intact and complete in the same way that pressing “*rewind*” and “*play*” (*hitting the replay button*) allows us to watch exactly the same show over and over again on a VCR or DVD player.

How Do Psychologists Ask and Answer Questions?

Page 10: . . . it [psychological science] welcomes *hunches* and plausible-sounding theories. In popular usage, a *hunch* is an intuitive feeling about a situation or event. Psychology can use subjective ideas to help formulate hypotheses or predictions, which can then be tested empirically or scientifically.

Page 23: Numbers can be numbing but the plural of anecdote is not evidence. We are often overwhelmed and our senses deadened (*numbed*) by the sometimes inappropriate use of statistics and numbers. Although stories by and about individuals (*anecdotes*) can generate productive lines of inquiry (*fruitful ideas*), they do not constitute reliable empirical facts no matter how numerous they are (*the plural of anecdote is not evidence*).

Page 23: As psychologist Gordon Allport (1954, p. 9) said, "Given a *thimbleful* of [dramatic] facts we rush to make *generalizations as large as a tub*." A *thimble* is a small metal container that fits over the top of the thumb or finger. It is used while sewing to push the needle through the material. A *tub* is a very large container (e.g., a *bathtub*). Allport is saying that, given a *small* amount of information (a *thimbleful*), we tend to make very *big* assumptions (*generalizations as large as a tub*).

Page 24: Using only 1500 randomly sampled people, drawn from all areas of a country, they can provide a remarkably accurate *snapshot* of the nation's opinions. A *snapshot* is a picture taken with a camera, and it captures what people are doing at a given moment in time. A good survey (*1500 randomly selected representative people*) gives an accurate picture (*snapshot*) of the opinions of the whole **population** of interest.

Page 26: Statistics can help us see what the *naked eye* sometimes misses. When looking at an array of data consisting of different measures (e.g., height and temperament) for many subjects, it is very difficult to discern what, if any, relationships exist. Statistical tools, such as the **correlation coefficient** and the **scatterplot**, can help us see clearly what the unaided (*naked*) eye might not see. As Myers notes, we sometimes need statistical illumination to see what is in front of us.

Page 29: If someone *flipped a coin* six times, which of the following sequences of heads (H) and tails (T) would be most likely: HHHTTT or HTTHTH or HHHHHH? *Flipping a coin* means throwing or tossing the coin into the air and observing which side is facing up when it lands. (The side of the coin that usually has the imprint of the face of a famous person on it—e.g., the president or the queen—is called *heads* (H). The other side is called *tails* (T).) By the way, all of the above sequences are equally likely, but most people pick HTTHTH. Likewise, any series of five playing cards (e.g., a bridge or poker hand in a game of cards) is just as likely as any other hand.

Page 29: . . . "cold hand" . . . "hot hand" . . . In this context, "hot" and "cold" do not refer to temperature. Here, being *hot* (or having a "hot hand") means doing well, and doing well consistently is having a *hot streak*. Having a run of poor luck is a *cold streak*. The crucial point, however, is that our intuition about sequences of events (*streaks* or streaky patterns) often deceives us. True random sequences often are not what we think they should be and, thus, they do not *appear* to be really random. When we think we're doing well ("hot hand"), we're very often not; we are merely noting or over-interpreting certain sequences (*streaks*) found in any random data.

Page 30: Did I snap out of my *tails funk* and get in a *heads groove*? David Myers tossed (*flipped*) a coin 51 times. The results showed several sequences (*streaks*) that did not appear to be random (i.e., a series of tails followed by a series of heads). He asks whether this was due to his paranormal control of the coin, which ended the series of tails (he snapped out of his *tails funk*) and produced a new series of all heads (he got into a *heads groove*). This type of explanation is not necessary, because these types of sequences (*streaks*) exist in any random sequence. As Myers notes, the outcome of any particular toss does not predict or influence the result of the next toss.

Page 32: Let's *Recap*. *Recap* is an abbreviation of *recapitulate*, which means to repeat or go over briefly, to summarize. Myers summarizes (*recaps*) the important points in each section of the chapter.

Statistical Reasoning in Everyday Life

Page 33: Off-the-top-of-the-head estimates often misread reality and then mislead the public. Without knowing actual data and numbers (*statistics*), people may guess at figures (they make *off-the-top-of-the-head estimates*). These guesses do not represent the true nature of things (they often *misread reality*) and consequently can deceive (*mislead*) the public. Figures generated in this manner are often easy to articulate, such as 10 percent or 50 percent (*big round numbers*) and, when repeated (*echoed*) by others, may eventually be believed to be true by most people (*they become public misinformation*). Rather than naïvely accepting (*swallowing*) easy-to-remember, but inaccurate, figures (*big, round, undocumented numbers*), be skeptical and apply straightforward statistical principles and critical thinking skills.

Page 35: Because the bottom half of British income earners receive only a quarter of the national income cake, most British people, like most people everywhere, make less than the mean. Incomes are not *normally distributed* (they do not follow a bell-shaped curve when plotted as a frequency distribution). So, a better measure of central tendency than the **mean** (arithmetic average) is either the **median** (the score in the middle) or the **mode** (the most frequently occurring score). In Myers' example, half the people account for 25 percent of all the money earned in the country (*national income cake*); therefore, in this uneven (*skewed*) distribution, most people earn below-average wages.

Page 35: . . . lackluster growth . . . Using the average (*mean*) income as an index, some politicians have aggressively promoted (*touted*) the view that there has been significant economic improvement (*solid growth*) since 2000. Using the same data, but focusing on the median instead, other politicians grieve or bemoan (*lament*) the economy's uninspiring and dreary (*lackluster*) performance. As Myers aptly points out, mean and median tell different true stories, so be sure to pay attention to which measure of central tendency is being used.

Page 35: It [standard deviation] better gauges whether scores are packed together or dispersed, because it uses information from each score (Table 1.4). The most commonly used statistic for measuring (*gauging*) how much scores differ from one another (their *variation*) is the **standard deviation** (SD). Using this formula, each score is compared to the mean; the result is an index of how the scores are spread out (*dispersed*). A relatively small SD indicates that most of the scores are close to the average; a relatively large SD indicates that they are much more variable.

Page 37: Data are "noisy." Differences between groups may simply be due to random (*chance*) variations (*fluctuations*) in those particular samples. When data have a great deal of variability, they are said to be "noisy," which may limit our ability to generalize from them to the larger population. To determine if differences are reliable, we should be sure that (a) samples are random and representative, (b) scores in the sample are similar to each other (have low variability), and (c) a large number of subjects or observations are included. If these principles are followed, we can confidently make inferences about the differences between groups.

Frequently Asked Questions About Psychology

Page 38: . . . plunge in. In this context, *plunge in* means to move ahead quickly with the discussion. (Similarly, when you dive into a swimming pool [*plunge in*], you do so quickly.) Before going on with the discussion of psychology (*plunging in*), Myers addresses some important issues and questions.

Page 40: To understand how a combustion engine works, you would do better to study a lawn mower's engine than a Mercedes'. A Mercedes is a very complex luxury car, and a lawn mower (a machine for cutting grass in the garden) has a very simple engine. To understand the principles underlying both machines, it is easier to study the simpler one. Likewise, when

trying to understand the nervous system, it is better to study a simple one (e.g., a sea slug) than a complex one (a human).

Pages 41–42: In New York, formerly *listless* and *idle* Bronx Zoo animals now stave off *boredom* by *working for their supper*, as they would *in the wild*. Animal research has benefited both humans and other animals. For example, captive animals, such as those on public display in the zoo, are no longer aimless and lazy (*idle*), lacking in energy (*listless*), or disinterested (*bored*) because they now have to forage and search for their food (*work for their supper*) much as they might in their natural habitat (*in the wild*). This empathy and sensitivity to what animals need to be healthy and content resulted from research that revealed much about animal intelligence and cognitive capabilities, as well as our close relationship (*behavioral kinship*) with them.

Page 42: . . . most universities today *screen* research proposals through an *ethics committee* . . . *Ethics committees* (groups of people concerned with moral behavior and acceptable standards of conduct) subject research proposals to rigorous tests (*screen them*) to ensure that they are fair and reasonable and that they do not harm the participants' well-being.

Page 42: *Values* can also *color* "the facts." Our *values* (what we believe is right and true) can influence (*color*) our observations, interpretations, and conclusions ("the facts").

CHAPTER REVIEW: *Thinking Critically With Psychological Science*

Page 44: . . . helps us *winnow* sense from nonsense. *Winnow* means to separate out. It was originally used to describe the separation of chaff (dust, etc.) from grains of wheat. The scientific method helps sort out, or separate (*winnow*), good ideas from bad ones.