

50 Great Myths of Popular Psychology: Shattering Widespread Misconceptions about Human Behaviors

by Scott O. Lilienfeld, Steven Jay Lynn, John Ruscio, and Barry L. Beyerstein
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Reviewed by **Danielle M. Sitzman and Matthew G. Rhodes**

In his 1969 presidential address to the American Psychological Association, George Miller suggested that psychologists should seek to analyze “the general effect our scientific psychology may have on popular psychology.” (Miller, 1969; p. 1067) Miller’s own analysis of the convergence of popular and scientific psychology had led him to the discomfiting conclusion that scientific psychology had made little notable impact on the public’s perception of psychology. As such, Miller issued his now famous charge for psychologists to effectively disseminate their findings to the public: “I can imagine nothing that we can do that would be more relevant to human welfare, and nothing that could pose a greater challenge to the next generation of psychologists, than to discover how to best give psychology away.” (p. 1075) Some forty years on, it is debatable whether psychologists have indeed met this charge. Anecdotal evidence abounds that much of what the public regards as psychology is a mishmash of pseudoscience, sensationalism, and myth. Surveys of the general public confirm this impression, with widespread belief in ESP (Moore, 2005), the efficacy of learning styles (see Pashler, McDaniel, Rohrer, & Bjork, 2008, for a review), the power of polygraph machines to detect lies (Myers, Latter, & Abdollahi-Arena, 2006), to the belief that a second bump on the head can have a curative effect on amnesia (Guilmette & Paglia, 2004). Moreover, many of the most conspicuous purveyors of psychology, from John Gray’s wildly popular series suggesting that men and women inhabit different planets to the ubiquitous Dr. Phil McGraw, are also the least credible.

Thus, what is perhaps most needed is a psychology that is accessible to the public and well-grounded in science. A number of recent books have answered this clarion call (e.g., Ariely, 2008; Chabris & Simons, 2010; see also Shermer, 1997). Lilienfeld, Lynn, Ruscio, and Beyerstein’s (2009) *50 Great Myths of Popular Psychology: Shattering Widespread Misconceptions about Human Behaviors* represents a welcome addition to this list. Written in an accessible and entertaining style, the book examines a wide range of myths from all areas of psychology. Lilienfeld et al. carefully outline the sources of psychological myths and then detail findings from the scientific literature that address these misconceptions. Accordingly, the book is a much-needed antidote to the avalanche of misinformation that masquerades as psychology and should be required reading for anyone with even a passing interest in psychology or, for that matter, the human condition.

Varieties of Myth

The book documents a treasure trove of 50 myths (with another 250 myths thrown in for good measure) from all areas of psychology. Many of the myths are common currency in popular culture, ranging from the belief that mentally ill individuals are violent to the notion that a full moon leads to an increase in arrests and hospital admissions. Several themes are evident. For example, a number of myths reflect the idea that human beings have a reservoir of untapped potential that can be realized through a variety of quick fixes. This is perhaps best exemplified by the common, but mysterious, belief that we only use 10% of our brains. Further, one’s potential can be fulfilled by listening to Mozart, by enhancing self-esteem, or by attending classes taught in a manner that matches one’s putative learning style. Other myths offer the allure of deeper insight into ourselves and others. For example, beliefs that hypnosis can permit access to currently inaccessible memories, that dreams contain symbolic meaning that we must interpret, and that handwriting reveals important information about our personality.

The myths about psychology documented in the book may at times amuse (e.g., one can learn while sleeping) or perplex (e.g., the eyes emit energy) but, as the authors convincingly argue, such myths are far from trivial and may actually be harmful. For example, a relaxation in the criteria for a diagnosis of autism led to a substantial increase in such diagnoses. Believing that an autism epidemic was prevalent, many linked the rise in autism to vaccines commonly administered during childhood, and therefore avoided vaccinating their children. Leaving children unvaccinated increases the risks of outbreaks of diseases, such as measles, that these vaccines were developed to eliminate. Other myths may lead to unjustifiable conclusions that one has repressed memories of childhood abuse, that a positive attitude is all that is necessary to fight cancer, or that resources are well invested in the dubious practice of criminal profiling. From that perspective, the value of dispelling such myth can hardly be overstated.

To the list of myths promising deeper insight into ourselves and others we add those myths promulgated by recent advances in neuroimaging technology. For example, No Lie MRI, a company that markets and sells fMRI (functional brain imaging) lie detection tests, proclaims that their use of brain imaging “has a verified accuracy

that greatly surpasses all other truth verification/lie detection methods.” (Retrieved at noliemri.com/ on April 26, 2011.). As Lilienfeld and colleagues’ survey of lie detection methods shows, this may not be a particularly high standard to surpass. Regardless, while debate continues regarding the efficacy of brain imaging technology for lie detection (e.g., see Sip, Roepstorff, McGregor, & Frith, 2008, for a review), such claims reflect a general finding that people often place a disproportionate amount of confidence in information that is presented with some sort of biological correlate (e.g., an fMRI image), a phenomena termed *neuromythology*. For example, Weisberg, Keil, Goodstein, Rawson, and Gray (2008) reported that poor explanations for psychological phenomena were judged as more valid when irrelevant brain-related research was presented to support the explanation. Similarly, D. McCabe and Castel (2008) observed that participants were more likely to judge the scientific reasoning of cognitive neuroscience studies as valid when brain images were presented compared with other images (e.g., a bar graph depicting the data).

More recently, D. McCabe, Castel, and Rhodes (in press) examined how evidence derived from brain imaging technologies may impact jury decisions. Participants in their study read a vignette of a criminal case that included lie detection evidence, with that evidence either based on information from a polygraph, fMRI, or thermal facial imaging. Results indicated that participants were more likely to render a guilty verdict when the evidence was derived from fMRI. These data suggest that information may be regarded as more convincing if a direct link between behavior and brain activity is shown (cf. Beck, 2010). Other evidence suggests that overgeneralization of findings from neuroscience have led to unwarranted “brain-based” education programs built on ideas such as multiple intelligences and learning styles (Geake, 2008). With the continual advancement of neuroimaging technology, it will be important to carefully interpret and disseminate these findings from neuroscience to the public and press (Beck, 2010). While Lilienfeld et al. address some of these myths (e.g., learning styles), future editions may seek to further explore neuromythologies.

Sources and Explanations of Myth

Lilienfeld and colleagues suggest a number of sources of psychological myths. Many myths may be rooted in common sense or intuitions that become the basis for judging the validity of claims. For example, common sense dictates that ulcers are caused by stress or that our parents exert the greatest influence on our adult personalities, despite strong evidence to the contrary. However, castigating intuition or common sense perhaps paints the issue with too broad a brush. Aside from convincing data suggesting that humans are well adapted to extract diagnostic information from information-impo-

verished environments (e.g., Gigerenzer & Brighton, 2009; Klein, 1998; see also Kahneman & Klein, 2009), labeling belief in myth a failure of common sense tells us little about the basis for the belief.

Fortunately, the book offers a veritable rogue’s gallery of sources of myth including word-of-mouth, selective memory for prior experiences, and exposure to biased samples and information (e.g., through the media). Several other sources appear throughout the book. For example, when two events co-occur, causation may be inferred from correlation, an inference repeatedly warned against in many a psychology course. The authors point to the example that many people, including psychologists, believe that being abused as a child causes people to become abusive as adults. However, in this case, there may be a third variable involved, such as a genetic tendency toward aggressiveness. Further, many myths may reflect the notion that an immediately preceding event is the cause of a subsequent event (i.e., the fallacy of *post hoc ergo propter hoc*). For example, myths of catharsis suggest that expressing emotions like anger is adaptive relative to “holding in” emotion. However, the dissipation in anger that follows an emotional outburst likely reflects the fact that anger diminishes over time rather than any role for expressing anger.

Myths in Search of Solutions

While *50 Great Myths of Popular Psychology* superbly documents and debunks a dispiriting array of psychological myth, what should be done to counteract these myths is less clear. For example, over half of the myths discussed in the book are manifested in television and movies (e.g., a belief in ESP has been the basis of a number of television shows). Although this does not establish causality (i.e., television may reflect rather than drive mythology) it does beg the question of how to neutralize a veritable onslaught of misinformation. The book is certainly a step in the right direction and the authors provide a number of tips to readers on how to be critical consumers of information. However, an individual seeking to read a book describing myths of psychology may not be the proper target audience. Thus, how might the myths and lessons of this book be imparted on the broadest possible audience?

One possibility lies in education. Some work suggests that providing students with veridical information on psychological phenomena increases the likelihood that they later endorse more empirically supported information. For example, J. McCabe (2011) reported that approximately 70% of undergraduates surveyed about learning practices endorsed the erroneous belief that restudying information leads to superior subsequent retention than the act of testing. In fact, almost a century of work has demonstrated that testing leads to far better memory performance than studying alone (see Roediger & Karpicke, 2006, for a review). J. McCabe (2011) reported that students who had been exposed to such research on the benefits of

testing were more likely to endorse the correct belief. More generally, several researchers have suggested that courses in statistics (Nisbett, Fong, Lehman, & Cheng, 1987) or brief tutorials (Fong, Krantz, & Nisbett, 1986) may augment general reasoning skills. Other work is less optimistic that such skills may transfer to other domains (see Barnett & Ceci, 2002, for a review). Moreover, many continue to question whether a university education imparts long-lasting reasoning skills that generalize across domains (see e.g., Brooks, 2011, for a review of recent books on the matter).

We have no interest in wading into the debate on the value of a college education but instead note that solutions to psychomythology based on university attendance necessarily exclude large segments of the population who choose not to attend a university or have no access to a university. A more promising avenue may be to change the sources of information that inform belief. For example, the Association for Psychological Science has recently instituted an initiative encouraging its membership to use their expertise to edit the online encyclopedia, *Wikipedia* (Banaji, 2010). The premise is that *Wikipedia* serves as the first (and maybe last) stop for information for the general public, and thus ensuring the reliability of that source has the promise of providing the greatest number of people with accurate information. Indeed, Banaji (2010) notes that some psychology articles are visited by more than 50,000 people a day. Whether psychologists participate in the initiative or whether there is any impact on the quality of information available remains to be determined. However, for now, it appears to be one of the few mediums where psychologists can make information easily available to anyone who seeks it, and by ensuring the accuracy of that information psychologists can debunk some of the myths laid out by Lilienfeld and colleagues.

General Conclusions

Overall, Lilienfeld, Lynn, Rusico, and Beyerstein provide an excellent and well-written book detailing many popular psychological myths. The style of writing keeps the reader engaged, while the strong, evidence-based, critiques of myths provide solid support for their arguments. The book will make a valuable contribution to any of a range of psychology courses, and hopefully beyond, at both the graduate and undergraduate level. At the same time, this information will also be accessible to individuals with little knowledge of psychology. Indeed, the value of the book resides in the fact that the authors are seeking not only to dispel popular myths, but to provide the reader with some of the skills necessary to critically evaluate scientific claims that they may encounter in the future. In this sense, *50 Great Myths of Popular Psychology* truly epitomizes Miller's charge to give psychology away.

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Author Information

Danielle Sitzman is a cognitive psychology graduate student working with Matthew Rhodes at Colorado State University. Her research has focused on memory, metacognition and feedback.

Matthew G. Rhodes is an assistant professor in the Department of Psychology at Colorado State University. He teaches courses that include Cognitive Psychology and Human Memory. His primary research interests include memory and metacognition. Correspondence should be addressed to: Danielle M. Sitzman, Department of Psychology, Colorado State University, 1876 Campus Delivery, Fort Collins, CO 80523-1876. E-mail: Danielle.Sitzman@Colostate.edu

