

Teaching Current Directions in Psychological Science

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Aimed at integrating cutting-edge psychological science into the classroom, Teaching Current Directions in Psychological Science offers advice and how-to guidance about teaching a particular area of research or topic in psychological science that has been the focus of an article in the APS journal [Current Directions in Psychological Science](#). Current Directions is a peer-reviewed bimonthly journal featuring reviews by leading experts covering all of scientific psychology and its applications and allowing readers to stay apprised of important developments across subfields beyond their areas of expertise. Its articles are written to be accessible to nonexperts, making them ideally suited for use in the classroom.

Misinformation, Misconceptions, and Our Teaching Mission

by David G. Myers

[Bensley, D. A., & Lilienfeld, S. \(2017\). Psychological misconceptions: Recent scientific advances and unresolved issues. *Current Directions in Psychological Science*, 26, 377–382.](#)

Few things bother us teachers of psychology more than viral misinformation, or energize us more than opportunities to challenge misconceptions and cultivate discerning minds. Our mission: to teach reality-based, evidence-supported thinking.

Thus, we feel distressed when public understandings radically diverge from reality, and especially when those misconceptions have huge effects. Some examples:

Belief: *Crime is rising.* Every recent year, 7 in 10 Americans have told Gallup that there is more crime “than there was a year ago” (Swift, 2016). President Donald Trump agrees, having said in early 2017 that “The murder rate is the highest it’s been in 47 years,” with Attorney General Jeff Sessions echoing that “rising crime is a dangerous and permanent trend.”

Fact: For several decades, both violent and property crime rates have been *falling*. In 2015, the FBI-aggregated violent crime rate was less than half the 1990 rate — a downward trend confirmed by Bureau of Justice Statistics (BJS) crime-victimization surveys (BJS, 2017; Statista, 2017).

Belief: *Many immigrants are criminals.* Horrific incidents, as in the endlessly retold story of a Mexican national killing a young woman from San Francisco, feed this narrative. Trump’s now-famous words epitomized this perception: “When Mexico sends its people ... they’re bringing drugs. They’re bringing crime. They’re rapists.”

Fact: Poor immigrants may fit our image of criminals (Butcher & Piehl, 2007), yet some studies report that, compared with native-born Americans, immigrants commit less violent crime (Riley, 2015).

Belief: *Under Obama, unemployment rose and the stock market fell.* At the end of 2016, 67% of Trump voters told Public Policy Polling (PPP) that unemployment increased during the Obama years, and only 41% said the stock market had risen.

Fact: At the end of 2016, the 4.7% US unemployment rate was about half the 2009 rate, while the stock market had more than doubled (Bureau of Labor Statistics, 2017; Vardi, 2017).

Lest these examples make misinformation seem partisan, a meta-analysis by APS Fellow Peter Ditto and his colleagues (2015) reveals “partisan bias in both liberals and conservatives, and at virtually identical levels.” For example, at the end of the Reagan presidency, more than half of strong Democrats believed inflation had worsened under Reagan. In actuality, it had plummeted — from 13% to 4% (Gelman, 2009).

Moreover, psychology-relevant misconceptions are abundant, note Alan Bensley and APS James McKeen Cattell Fellow Scott Lilienfeld (2017). At the beginning of an introductory psychology class, ask your students: True or false...

1. Human memory captures events like a video recorder.
2. Abnormal behavior is more common during a full moon.
3. People use only 10% of their brains.
4. Brain-training exercises increase people’s intelligence.
5. Students learn better when teachers match their teaching styles to their students’ learning styles.

Better yet, administer Bensley, Lilienfeld, and Lauren Powell’s (2014) Test of Psychological Knowledge and Misconceptions (TOPKAM), with its forced-choice format that pits misconceptions against evidence-based alternatives. Sample item:

Which is most true about the Rorschach (inkblot) Test?

1. It is like a “psychological X-ray” because it can penetrate the unconscious mind and tell a great deal about personality.
2. It can detect marked thinking disturbances but is not effective in detecting depression or anxiety disorder.

Or test your students on the 50 great myths of popular psychology (Lilienfeld, Lynn, Ruscio, & Beyerstein 2010).

Such popular but false beliefs — all discounted by psychological science, note Bensley and Lilienfeld — are weeds within psychology’s lush grass. We wonder: Why do these weeds spread despite the counterforce of fact? Why, despite our efforts to pull them, do they keep sprouting? And rather than succumb to fact-free, post-truth thinking, what can we do to eradicate them?

Why Does Misinformation Spread?

Psychological science has identified several seeds of false beliefs.

The power of mere repetition. How often have people heard or read it: Vaccines cause autism. Climate change is a hoax. Islamic terrorism is a grave threat to the United States (never mind that, of 230,000 murders since 9/11, only 123 have been perpetrated by Muslims [Kristof, 2017]). Mere repetition makes statements easier to process and remember (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012; Schwarz, Newman, & Leach, 2017).

The power of familiar, hard-to-erase falsehoods and fake news is appreciated by political manipulators, from those in Orwell’s fictional *1984* to those running today’s presidential campaigns.

Moreover, rebuttals sometimes backfire because they repeat the myth. But the good news, as Bensley and Lilienfeld note, is that repetition also can power truth.

The power of confirmation bias. Our self-justifying brains welcome information that supports our preexisting beliefs and resist information that does not. In a May 2016 PPP national survey, those favorable to Trump believed Obama was Muslim rather than Christian by a 65% to 13% margin. Those unfavorable to Trump believed the reverse by a mirror-image 64% to 13% margin. As a Chinese proverb says, “Two-thirds of what we see is behind our eyes.”

The power of cognitively available anecdotes. Thanks to the availability heuristic, mere anecdotes have power. A brutal crime can make the world seem more violent than it actually is. An unseasonably warm (or cold) winter day can make climate change seem real (or not). Thus we teach — and repeat — “The plural of anecdote is not data.”

The power of group polarization. The Internet provides a fertile medium for group polarization — the strengthening of true and false beliefs as like minds interact among themselves. On social media, we feed our like-minded friends information — and misinformation. Thus, news and fake news spread. Within the Internet’s echo chamber of the like-minded, viewpoints become more extreme. Suspicion becomes conviction. As Steve Martin tweeted, “Dear Satan, thank you for having my Internet news feeds tailored especially for ME!”

Ergo, the great challenge for teachers of psychology, conclude Bensley and Lilienfeld, is the teaching of “critical thinking skill[s]” and a disposition “to skeptically examine knowledge claims.” Although human intuition has some remarkable powers, it also has perils — as illustrated by the correlation between high scores on the Faith in Intuition scale and endorsement of misconceptions. Go bold, they advise. Engage analytic thinking. “Activate misconceptions and then explicitly refute them.”

When wedded with a spirit of humility, the teaching of psychological science is a welcome antidote to rampant misinformation.

References

Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology*, 53, 27–51.

Bensley, D. A., Lilienfeld, S. O., & Powell, L. A. (2014). A new measure of psychological misconceptions: Relations with academic background, critical thinking, and acceptance of paranormal and pseudoscientific claims. *Learning and Individual Differences*, 36, 9–18.

Berkowitz, L. (1989). Affective aggression: The role of stress, pain, and negative affect. In R. G. Geen & E. Donnerstein (Eds.), *Human aggression: Theories, research, and implications for social policy* (pp. 49–72). San Diego, CA: Academic Press.

Bureau of Justice Statistics. (2017). *Data collection: National Crime Victimization Survey (NCVS)*. Retrieved from www.bjs.gov/index.cfm?ty=dcdetail&iid=245

Bureau of Labor Statistics. (2017). *Labor force statistics from the Current Population Survey*. Retrieved from data.bls.gov/timeseries/LNS14000000

- Bushman, B. J., & Huesmann, L. R. (2010). Aggression. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of social psychology* (5th Ed., pp. 833–863). New York, NY: Wiley.
- Butcher, K. F., & Piehl, A. M. (2007). Why are immigrants' incarceration rates so low? Evidence on selective immigration, deterrence, and deportation. National Bureau of Economic Research, Working Paper 13229. Retrieved from www.nber.org/papers/w13229
- Carver, C. S., & Harmon-Jones, E. (2009). Anger is an approach-related affect: Evidence and implications. *Psychological Bulletin*, *135*, 183–204.
- Chester, D. S., & DeWall, C. N. (2016). The pleasure of revenge: Retaliatory aggression arises from a neural imbalance towards reward. *Social Cognitive and Affective Neuroscience*, *11*, 1173–1182.
- Ditto, P., Wojcik, S., Chen, E., Grady, R., & Ringel, M. (2015). Political bias is tenacious. *Behavioral and Brain Sciences*, *38*. doi:10.1017/S0140525X14001186
- Dollard, J., Doob, L. W., Miller, N. E., Mowrer, O. H., & Sears, R. R. (1939). *Frustration and aggression*. New Haven, CT: Yale University Press.
- Gelman, A. (2009, April 16). Red and blue economies? *FiveThirtyEight*. Retrieved from fivethirtyeight.com/features/red-and-blue-economies
- Kristof, N. (2017, February 11). Husbands are deadlier than terrorists. *New York Times*. Retrieved from www.nytimes.com/2017/02/11/opinion/sunday/husbands-are-deadlier-than-terrorists.html?_r=0
- Lewandowsky, S., Ecker, U. K. H., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological Science in the Public Interest*, *13*, 106–131.
- Lilienfeld, S. O., Lynn, S., Ruscio, J., & Beyerstein, B. L. (2010). *50 great myths of popular psychology: Shattering widespread misconceptions about human behavior*. West Sussex, UK: Wiley-Blackwell.
- Riley, J. L. (2015, July 14). The mythical connection between immigrants and crime. *Wall Street Journal*. Retrieved from www.wsj.com/articles/the-mythical-connection-between-immigrants-and-crime-1436916798
- Schwarz, N., Newman, E., & Leach, W. (2017). Making the truth stick & the myths fade: Lessons from cognitive psychology. *Behavioral Science & Policy*, *2*, 85–95.
- Statista. (2017). *Reported violent crime in the United States from 1990 to 2015*. Retrieved from www.statista.com/statistics/191219/reported-violent-crime-rate-in-the-usa-since-1990
- Swift, A. (2016, November 9). Americans' perception of US crime problem are steady. *Gallup*. Retrieved from www.gallup.com/poll/197318/americans-perceptions-crime-problem-steady.aspx
- Vardi, N. (2017, January 17). Inside the Obama stock market's 235% return. *Forbes*. Retrieved from www.forbes.com/sites/nathanvardi/2017/01/17/inside-the-obama-stock-markets-235-rise/#33897a3e16d1

Wilkowski, B. M., & Robinson, M. D. (2008). The cognitive basis of trait anger and reactive aggression: An integrative analysis. *Personality and Social Psychology Review*, *12*, 3–21.

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