

# 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.*

[Visit the column](#) for supplementary components, including classroom activities and demonstrations.

Visit David G. Myers at his blog [“Talk Psych”](#). Similar to the APS *Observer* column, the mission of his blog is to provide weekly updates on psychological science. Myers and DeWall also coauthor a suite of introductory psychology textbooks, including *Psychology (11th Ed.)*, *Exploring Psychology (10th Ed.)*, and *Psychology in Everyday Life (4th Ed.)*.

## Why Teach Methods?

*By C. Nathan DeWall*

Psychologists speak a funny language. Our friends see slot machines; we see variable-ratio schedules. Our spouses seem stumped as to why a colleague exclusively dates coworkers; we cite the mere-exposure effect. At family gatherings, our parents wax poetic about the dozens of random events that culminated in their marriage. We let it slip that correlation does not imply causation.

Yes, we psychologists can rub others the wrong way with our obsession with methodological discussions. But this foible shouldn't keep us from teaching research methods. Imparting this knowledge to students gives them the ability to become better consumers of knowledge, to think critically, to understand other research, and to become scientific authorities.

In what follows, I discuss some practical matters about how to approach teaching methods and also present some activities to help students grasp basic methodological concepts.

When I interviewed for faculty positions, people asked if I was willing to teach so-called service courses. I nodded, vaguely aware of the pact I had just made with my interviewers. Service teaching, I would later learn, involved taking on courses that helped the department but that few people wanted to teach. Many faculty members avoid teaching methods because they would rather teach courses in their content area of expertise. I get that. Teaching methods isn't always fun, but it is important. A methods course teaches students the language of how to do psychological science.

Here are three things I try to keep in mind when approaching my methods courses:

**Know Your Audience.** Before I teach a methods course, I have coffee with someone who has previously taught it. I get a read on students' levels of preparation, what workloads they can manage, and what worked and what didn't when the course was taught before. I try to remember that few students will ever enjoy methods as much as professors do. What is clickbait to professors — articles on Bayesian statistics and multitrait-multimethod matrices — may exceed what the typical undergraduate student can handle. Always challenge students, but remember that they have to start somewhere. Keep it simple.

**Be Nice.** It's easy to get grumpy when students don't understand concepts that you find easy to comprehend. Resist the temptation to talk down to students or embarrass them. Try to imagine what it's like for them, learning a new language that you already speak fluently. You wouldn't appreciate it if you moved to a foreign country and the locals insulted you because you didn't speak their language perfectly the day you arrived. These things take time. Practice patience.

**Get Students on the MEAL plan.** Teaching methods often serves as a gateway to advanced study. In basic methods courses, this gateway may manifest as helping students take advanced topical courses or secure departmental research assistantships. Advanced methods courses may serve as springboards toward graduate study. Regardless of the outcome, I let students know that my role is to motivate (M), educate (E), advocate (A), and learn (L). This MEAL plan lets students know what they can expect from me. By motivating students to learn methods, I hope to help them succeed in upper-level courses. By advocating for them, I will help them use the information they've learned in a practical and useful manner. As always, I encourage students to bring new research to class so that we, as a group, can learn new methodological information.

## **Activity No. 1: What Does Your Newsfeed Say About Correlation and Causation?**

Most students remember that correlation does not imply causation, but few students recall why. Instructors can begin by reviewing information about what a correlation means (association between two or more variables) and its defining parameters (positive or negative, range from  $-1$  to  $+1$ ). Next, make sure students understand how the *direction problem* (e.g., does  $A \rightarrow B$ ? vs.  $B \rightarrow A$ ?) and the *third-variable problem* (e.g., does  $C \rightarrow A \rightarrow B$ ?) help explain why correlations do not tell us anything about causality.

Ask your students to use their smartphones, laptops, or other electronic devices to open their newsfeed (e.g., news app, Facebook, Twitter). Working with a partner, have them find at least two examples in the media where causal inferences have been incorrectly made on the basis of inadequate data. Many times headlines will make this mistake (e.g., "Stress Causes Cancer"), making it easy for the trained eye to spot errors. Where are the incorrect conclusions made? Why are they incorrect? What would students have done to offer a valid causal conclusion?

## **Activity No. 2: How Reliable Is Your Personality?**

Reliability refers to a measure's consistency or dependability. We expect some measures to show more reliability than others. For example, personality traits should show high levels of reliability across time because they rely on people's chronic motivations, thoughts, feelings, and actions. A talkative senior in high school often grows up to become a talkative senior citizen.

This activity will take place over a week. First, give students a brief review of the Big Five personality dimensions: conscientiousness (being organized, responsible, and orderly), agreeableness (being motivated to have positive social interactions), neuroticism (displaying negative emotionality and emotional instability), openness (being cultured, intellectual, and reflective), and extraversion (being talkative and getting energy from social interactions). (A useful acronym is CANOE.) Next, ask students to complete the online measure of the Big Five personality inventory found [here](#). Have students record their percentile ranking on each personality dimension. One week later, ask students to take the online measure of the Big Five personality inventory again and record their percentile rankings.

Students can form groups of three and discuss the test-retest reliability of their personality responses. How similar were their personality-dimension percentile rankings? Were some personality dimensions more similar over time than others? Why?

### **Activity No. 3: Validapalooza**

Validity matters as much as reliability. This activity encourages students to consider many types of validity. Instructors can open a Web browser and ask students to complete the online version of the Ten Item Personality Inventory (Gosling, Rentfrow, & Swann, 2003) [here](#). Once students have completed the measure, have them scroll to the bottom of the page, reverse-score the appropriate items, and then average the two items for each respective personality dimension.

As a class, discuss how much the measure has these different types of validity:

**Content Validity.** Does the questionnaire properly assess the domains it aims to assess? Did it seem to have questions that related to each of the Big Five personality dimensions? Do students who scored high on extraversion feel that they're talkative, whereas those who scored low feel that they're more reserved? Do students who scored high on conscientiousness perceive that they are responsible and orderly, whereas those who scored low feel that they often struggle to finish projects or meet their goals?

**Face Validity.** How well did the questions appear to measure what they were meant to measure? For example, did the questions on the extraversion subscale seem to accurately measure how much a person is talkative and sociable?

**Convergent Validity.** How closely do you think scores on each dimension would correlate with another measure of the same construct? For example, how much would scores from this personality test correspond to scores on the longer Big Five personality dimension test completed earlier?

**Discriminant Validity.** How much do you think scores on each dimension would *not* correlate with constructs that seem unrelated? A measure that correlates with everything describes nothing. What factors might be unrelated to each personality dimension?

In the pioneering days of empirical psychology, one of the greatest honors involved being selected to join a group called the Experimentalists (later renamed the Society of Experimental Psychologists). In 1929, the group's mission was "to advance Psychology by arranging informal conferences on experimental methodology" (Society of Experimental Psychologists, 2016). The top minds in psychological science would putter around each other's laboratories, eager to educate each other about cutting-edge methods. Today, teaching experimental methods is considered more of a chore than a privilege.

We might never return to the glory days of research methods. But we can do our best to teach students the unique language of research methods. Doing so will help students understand the methodological building blocks that help make psychological science a reality.

## References

Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the Big Five personality domains. *Journal of Research in Personality, 37*, 504–528.

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