

Teaching Current Directions in Psychological Science

C. Nathan DeWall, David G. Myers, Cindi May, and Gil Einstein

Edited by C. Nathan DeWall and David G. Myers

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.

What Makes a Really Smart Group?

by David G. Myers

Woolley, A., Aggarwal, I., & Malone, T. (2015). Collective intelligence and group performance. *Current Directions in Psychological Science*, 24, 420–424.

A selective reading of social psychology might suggest that groups are very, very bad. In groups, we become more aroused, more error prone on complex tasks, more likely to loaf, more polarized, and more deindividuated. Police brutality, gang violence, lynchings, and terrorism are group phenomena. And groups may suppress dissent, producing a homogenized and stupid groupthink.

But then again, as social animals, we prosper in groups. We find support, sustenance, and security. We excel — we run faster, laugh louder, and become more generous. Kindred-spirited groups can strengthen our resolve to lose weight, drink less, cope with grief, or become more spiritual.

In groups, we also can get smarter. From psychological laboratories to juries and executive boardrooms, studies have shown that multiple heads are better than one. On various analogy, reasoning, and eyewitness memory tasks, cooperative groups usually surpass individuals — sometimes even the best individual (Laughlin, 2011). When predicting world events, teams have produced better results than individuals (Mellers et al., 2014). When doing research, “team science” is more effective than individual research (Cacioppo, 2007). The flock is smarter than the lone bird. As Nobel laureate and APS William James Fellow Daniel Kahneman (2014) recalls, “Amos [Tversky] and I shared the wonder of together owning a goose that could lay golden eggs — a joint mind that was better than our separate minds.”

So though groups sometimes bring out the worst human behavior, there is also wisdom in the interacting group (and ditto in large crowds, as shown by the effectiveness of election-prediction markets and Google searches).

In their lucid article, Anita Williams Woolley, Ishani Aggarwal, and Thomas Malone (2015) take the group intelligence question a step further. They ask, “Are some groups reliably smarter than others? If so, why?”

Their findings: Just as some individuals display more “general intelligence” (*g*) than others across tasks, so some *groups* display greater “collective intelligence” (*c*) than others. When devoting several hours to a variety of tasks — creative brainstorming, solving verbal and math puzzles, playing checkers against a computer, and doing moral reasoning — about 40% of the performance variation among groups is attributable to *c* (much as about the same variation among individuals is attributable to *g*). Moreover, the *c* factor appears among college and MBA students, across cultures, and even in online groups.

What Predicts *c*?

Collective intelligence reflects both the “bottom-up” skills that individuals bring to their groups and the “top-down” group processes that enable effective collaboration.

Individuals’ attributes. Groups with highly intelligent individuals adapt, learn, and perform better in challenging environments. But the effect individual intelligence has on team performance has been “not consistently strong in the laboratory” and “even weaker in field settings.” In a management course, compared with less intelligent teams, collectively intelligent teams did better on group assignments, despite their members not doing better on individual assignments. Thus, “a group of smart people is not enough, alone, to make a smart group.”

A better predictor of *c* is a form of *social intelligence* — social perceptiveness, as measured by the “Reading the Mind in the Eyes” test, which assesses people’s ability to read others’ emotions. The proportion of female group members also predicts *c*, seemingly because women score higher on social perceptiveness.

Diversity of thinking styles and perspectives also helps when groups perform a variety of tasks — especially when differences are not extreme enough to impair communication.

Group processes. Collectively intelligent groups communicate more and participate more equally than do other groups, report Woolley and colleagues. A group in which one or two people dominate typically displays little collective intelligence. People “are never so likely to settle a question rightly as when they discuss it freely,” observed Thomas Macaulay (1830).

So, could changes in group structure and leadership enhance collective intelligence? Could forcing equal participation — say, by instituting turn-taking — help? Might electronic tools for facilitating diverse input also be of benefit — as they are in promoting productive group brainstorming (Brown & Paulus, 2002)?

Such questions await further research. After observing the conformity pressures, self-censorship, and “mindguarding” that fueled groupthink, Irving Janis (1972, 1982) had some additional ideas. Leaders, he advised, should be impartial, encourage critical evaluation (even by being devil’s advocates), and occasionally subdivide the group before having them reunite to air differences.

Engaging Students

Before explaining some of the influences on collective intelligence, instructors might invite students to form groups of three to five to collectively propose possible explanations. Do they identify both bottom-up, individual possibilities (e.g., smarter or more socially perceptive group

members) and top-down, group-process possibilities (e.g., better communication or more equal participation)?

This group activity is itself a group problem-solving exercise. Thus, if one or two groups offer an especially apt set of ideas, they might be invited to reflect on what made their group effective. Did their group embody a diversity of people and perspectives? Sensitivity in drawing out, reading, and responding to one another? Equal participation?

To illustrate group problem solving and collective intelligence, instructors also could give groups a reasoning problem. Woolley suggests the classic “NASA Exercise” — which has individuals, then groups, rank items needed for survival on the moon. She has kindly made this handout, with instructions for scoring groups (vis-à-vis expert judgments), available [here](#).

Group members can take the test as individuals and as a collective, then assess their group performance (did it surpass the score of their average individual?) and compare it with that of other groups. They also can discuss their collective intelligence. To make this activity nonthreatening, remind students that group performance typically says little about the intelligence of individual group members. Finally, remind them that, while group influences may corrupt us, there is often wisdom in groups — especially in collectively intelligent groups that harness and combine the creative intelligence of all group members.