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Why smart people don't necessarily make smart groups

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If blockbusters books such as *Outliers* and *The Big Short* tell us anything, it's that the big players in business and finance rarely go it alone. They don't make vast sums as lone cowboys. Instead, their earnings are boosted by the group sandboxes in which they play, according to the books' authors. And while sheer brainpower surely helped them score, recent evidence suggests that individual IQ is not as persuasive as you might expect when it comes to solving group problems.

Anita Woolley, a professor of organizational behaviour at Carnegie Mellon Tepper School of Business, calls group, or collective, intelligence the "c" factor (named after the "g" factor underlying general intelligence). In an experiment by Dr. Woolley and several colleagues from Massachusetts Institute of Technology, recently published in Science, the main driver of "c" was not individual intelligence, but social awareness – the ability to suss out what other group members might be thinking and allow them the space to express their ideas.

"I'm sure you've been in groups where one person thinks he's knowledgeable about everything. But it's not the case that one person would be the one to direct traffic on every task. And generally when you get someone in a group who does all the talking, that's exactly what's happening," Dr. Woolley said.

To test their idea that group smarts can be more influential than the input of the smartest person in the room, or the average IQ, the researchers gave nearly 700 people the Wonderlic Personnel Test (a test of cognitive skills often used to evaluate prospective employees), as well as a test of social sensitivity, called the Reading the Mind in the Eyes Test (which requires people to guess the emotions and intentions of others from photos of their eyes).

Once the researchers had rough estimates of the participants' individual intelligence levels and social skills, the subjects were randomly assigned to groups of two to five people. They had to work together to solve a series of problems, including spatial puzzles, brainstorming and negotiating tasks, as well as dilemmas that required making collective moral judgments.

Here's where things get interesting. Some of the participants wore "sociometric" badges, which are similar to employee ID cards equipped with sensors that record who is talking to whom. The point isn't to eavesdrop, but to track the ebb and flow of information. "The main thing we looked at was conversational turn-taking; when people were talking over each other, and how evenly the speaking was distributed," Dr. Woolley said.

It turned out that a group’s performance could be predicted by three factors: the social sensitivity of its members (measured by the “eyes” test), the degree of conversational turn-taking (measured by the badges) and the number of women in the group.

The female factor was a surprise to the researchers. Dr. Woolley said that although she was aware of the mountain of research showing that, on average, women’s social skills are stronger than men’s, “the fact that it was such a strong driver of group intelligence wasn’t expected.” Nor was it expected that individual IQ levels, motivation or job satisfaction would play a scant role in predicting the group’s performance.

Given these results, you might surmise that hiring more women would improve a group’s collective intelligence. “If you use the laws of probability, then having more women will enhance the social skills of the group,” Dr. Woolley said. But it’s also true that these skills can be taught. Benjamin Waber, a doctoral student at MIT who helped to analyze the badge data, said that if you control for women’s social skills, the gender effect disappears: “Females tend to behave a certain way, more than males do. But if males do the same thing, you’ll get the same effect.”

Even if group intelligence is more than the sum of its parts, there’s still room for individual expertise, Dr. Woolley said. “A lot of organizations make that mistake. It’s much more expensive to use a team when a problem could be solved by one person.”

Still, identifying who the smartest person in the group is for that task, and listening to him or her at the right time in the discussion, is key, she said. “Selecting people is less about getting geniuses to work for you, and more about putting together the best team and keeping it intact. It’s about the people and the tools that will enhance collective intelligence.”

Susan Pinker is a psychologist and author of The Sexual Paradox: Extreme Men, Gifted Women and the Real Gender Gap.
