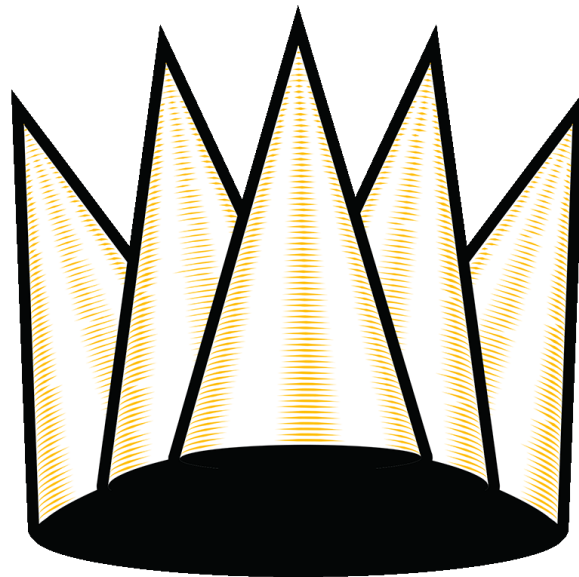
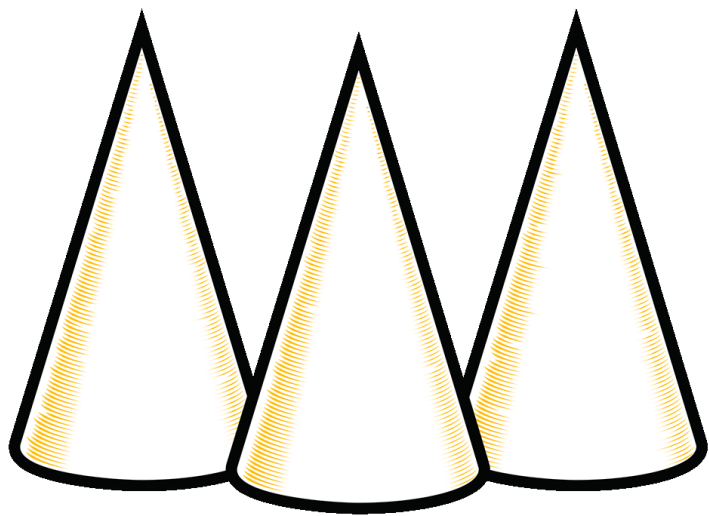


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LEADING TEAMS

Making Dumb Groups Smarter

by Cass R. Sunstein and Reid Hastie

FROM THE NOVEMBER 2014 ISSUE

Since the beginning of human history, people have made decisions in groups. As the saying goes, two heads are better than one. If so, then three heads should be better than two, and four better still. With a hundred or a thousand, then, things are bound to go well—hence the supposed wisdom of crowds.

The advantage of a group, wrote one early advocate of collective intelligence—Aristotle—is that “when there are many who contribute to the process of deliberation, each can bring his share of goodness and moral prudence...some appreciate one part, some another, and all together appreciate all.” The key is information aggregation: Different people take note of different “parts,” and if those parts are properly aggregated, they will lead the group to know more (and better) than any individual.

Unfortunately, groups all too often fail to live up to this potential. Companies bet on products that are doomed to fail, miss out on spectacular opportunities, pursue unsuccessful competitive strategies. In governments, policy judgments misfire, hurting thousands or even millions of people in the process.

“Groupthink” is the term most often applied to the tendency of groups to go astray. Popularized in the early 1970s by the psychologist Irving Janis, it has deservedly entered the popular lexicon. But Janis’s contribution is more an evocative narrative than either a scientific account of how groups go wrong or helpful guidance for group success. Many researchers have tried to find experimental evidence to support his specific claims about how cohesion and leadership styles shape group behavior, to little avail.

Since Janis produced his theory, though, psychologists and other behavioral scientists have built up a rich base of evidence on how and when individual decision makers blunder. This work has attained scientific acclaim (including several Nobel prizes) and widespread popularity thanks to best sellers such as Daniel Kahneman’s *Thinking, Fast and Slow*, Dan Ariely’s *Predictably Irrational*, and *Nudge* (which one of us, Sunstein, coauthored with the economist Richard Thaler).

A smaller but nonetheless substantial body of research—some of it our own—has focused on the decision-making strengths and weaknesses of groups and teams. But little of this work has trickled into the public consciousness, and it has yet to have a noticeable effect on actual practice. It’s time for that to change. We aim to bring behavioral research into direct contact with the question of group performance—to describe the main ways in which groups go astray and to offer some simple suggestions for improvement.

Why Do Errors Occur?

Groups err for two main reasons. The first involves *informational signals*. Naturally enough, people learn from one another; the problem is that groups often go wrong when some members receive incorrect signals from other members. The second involves *reputational pressures*, which lead people to silence themselves or change their views in order to avoid some penalty—often, merely the disapproval of others. But if those others have special authority or wield power, their disapproval can produce serious personal consequences.

As a result of informational signals and reputational pressures, groups run into four separate though interrelated problems. When they make poor or self-destructive decisions, one or more of these problems are usually to blame:

- Groups do not merely fail to correct the errors of their members; they *amplify* them.
- They fall victim to *cascade effects*, as group members follow the statements and actions of those who spoke or acted first.
- They become *polarized*, taking up positions more extreme than those they held before deliberations.
- They focus on *what everybody knows already*—and thus don’t take into account critical information that only one or a few people have.

Amplifying Errors

With the psychologists Daniel Kahneman and the late Amos Tversky in the vanguard, behavioral scientists have identified some common mental shortcuts (known as heuristics) and biases that lead individuals astray. The *planning fallacy*, for example, leads us to underestimate how much time projects will take and how much money they’ll cost. *Overconfidence* leads us to believe that our forecasts are more accurate and precise than in fact they are. The *availability* heuristic leads us to seize on whatever springs most readily to mind, because it is memorable or we recently experienced it. The *representativeness* heuristic leads us to believe that things or events or people that are similar in one way are similar in other ways, too. *Egocentric bias* leads us to exaggerate the extent to which our tastes and preferences are typical. The *sunk-cost fallacy* leads us to stick with a hopeless project because we have already invested so much in it. *Framing effects* influence our decisions according to the semantics of how the options are presented. (For example, people are more likely to agree to an operation if they are told that 90% of people are alive after five years than if they are told that 10% of people are dead after five years.)

ESSENTIAL BACKGROUND

The Hidden Traps in Decision Making

DECISION MAKING ARTICLE by John S. Hammond, Ralph L. Keeney, and Howard Raiffa

Understand the well-documented psychological traps that afflict most managers.

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and Catherine Blumer have shown that groups are even more likely than individuals to escalate their commitment to a course of action that is failing—particularly if members identify strongly with the group. There is a clue here about why companies, states, and even nations often continue with doomed projects and plans. Groups have also been found to increase, rather than to lessen, reliance on the representativeness heuristic; to be more prone to overconfidence than individual members; and to be more influenced by framing effects.

Both informational signals and reputational pressures are at work here. If most members of a group tend to make certain errors, then most people will see others making the same errors. What they see serves as “proof” of erroneous beliefs. Reputational pressures play a complementary role: If most members of the group make errors, others may make them simply to avoid seeming disagreeable or foolish.

Fortunately, we have evidence that deliberating groups can correct or reduce certain biases. For problems that have “eureka” solutions (the right answer, once announced, is clear to all), groups do well even if individual members start out biased. Groups are also better than individuals at overcoming egocentric bias. An individual will focus on his own tastes—what he likes and what he doesn’t. If he consults with others, he is likely to learn that his tastes are idiosyncratic. In such cases, group deliberation supplies an important corrective. Note that we’re less apt to get that corrective if the group consists of like-minded people. The influence of the availability heuristic, too, is slightly reduced in groups. Individual members may each rely on “what comes to mind,” but they are likely to have different memories, yielding a more representative sample at the group level.

The larger point, however, is that many individual biases are *not* systematically corrected at the group level and often get worse. The mechanisms by which errors are compounded can usually be found in the other three problems of group decision making.

Cascading to the Wrong Answer

The human brain may be wired from birth to synchronize with and imitate other people. It is no exaggeration to say that herding is a fundamental behavior of human groups. When it comes to group decisions and information flow, the favored term among social scientists is “cascade”—a small trickle in one direction that soon becomes a flood.

Consider a brilliant study of music downloads by the sociologists Matthew Salganik, Peter Dodds, and Duncan Watts. They allowed test subjects to listen to and download one or more of 72 songs by new bands. In the control group, individuals were told nothing about what others had downloaded or liked and were left to make independent judgments. In other groups, the participants could see how many people had previously downloaded particular songs. The researchers were testing how much difference it made, in terms of ultimate numbers of downloads, if people could see the behavior of others.

It made a huge difference. Although the worst songs (as established by the control group) never ended up at the very top, and the best songs never at the very bottom, essentially anything else could happen. If a song benefited from a burst of early downloads, it might do quite well. Without that benefit, it might be a failure. And as the researchers later found, these effects occurred even if they lied to the test subjects about which songs were downloaded a lot.

If a project, a product, a business, a politician, or a cause gets a lot of support early on, it can win over a group even if it would have failed otherwise. Many groups end up thinking that their ultimate convergence on a shared view was inevitable. Beware of that thought. The convergence may well be an artifact of who was the first to speak—and hence of what we might call the architecture of the group’s discussions.

Two kinds of cascades—informational and reputational—correspond to our two main sources of group error. In informational cascades, people silence themselves out of deference to the information conveyed by others. In reputational cascades, they silence themselves to avoid the opprobrium of others.

Here's an example of an informational cascade in jury deliberations, which has important implications for business. One of us (Hastie) has conducted dozens of mock-jury studies with thousands of volunteer jurors, many of them from big-city jury pools. In these studies the volunteers privately write down their preferred verdicts before deliberations begin and indicate how confident they are in their judgments. Deliberations then start, as they often do in real trials, with a straw vote to see where everyone stands. The vote circles the jury table and frequently begins with a small set of two or three jurors who favor, with increasing confidence, the same verdict.

In one mock trial, jurors 1, 2, and 3 endorsed a verdict of second-degree murder both privately and in the straw vote. Juror 4 had voted not guilty and indicated the highest level of confidence in his choice on the pre-deliberation private ballot. What did juror 4 do when confronted with three second-degree murder verdicts? He paused for a second and then said, "Second degree." Juror 7, an undecided vote, suddenly spoke up and asked, "Why second degree?" The researchers saw a deer-in-the-headlights expression flit across juror 4's face before he replied, "Oh, it's just obviously second degree." We have no doubt that similar scenarios play out every day in jury rooms, boardrooms, and conference rooms all over the world.

Many groups end up thinking that their ultimate convergence on a shared view was inevitable. Beware of that thought.

A reputational cascade has a different dynamic. Group members think they know what is right, but they nonetheless go along with the group in order to maintain the good opinion of others. Suppose, for example, that Albert suggests that his company's new project is likely to succeed. Barbara is not confident that he's right, but she concurs because she wishes not to seem ignorant, adversarial, or skeptical. If Albert and Barbara seem to agree that the project will go well, Cynthia not only won't contradict them publicly but might even appear to share their judgment—not because she believes it to be correct (she doesn't), but because she doesn't want to face their hostility or lose their good opinion. Once Albert, Barbara, and Cynthia offer a united front on the issue, their colleague David will be most reluctant to contradict them, even if he's pretty sure they're wrong and has excellent reasons for that belief. (Incipient evidence indicates that women are especially likely to self-censor during discussions of stereotypically male subjects, such as sports, and that men are especially likely to self-censor during discussions of stereotypically female subjects, such as fashion. In both cases, groups lose valuable information.)

"Political correctness," a term much used by the political right in the 1990s, is hardly limited to left-leaning academic institutions. In both business and government there is often a clear sense that a certain point of view is the proper one and that those who question or reject it, even for purposes of discussion, do so at their peril. They are viewed as "difficult," "not part of the team," or, in extreme cases, as misfits.

The group members in the examples above are, in a sense, entirely rational. They care about their reputations, but there's nothing irrational about that. As noted, however, people use heuristics, which can lead them astray, and are subject to biases. For the purposes of understanding how cascade effects work, the most important heuristic involves availability: A vivid idea or example moves rapidly from one person to another, eventually producing a widespread belief within a group and possibly a city, a state, or even a nation.

In the area of risk, availability cascades are common. A particular event—involving a dangerous pesticide, a hazardous waste dump, a nuclear power accident, an act of terrorism—may become well-known to the group, even iconic. If so, it will alter members' perceptions of a process, a product, or an activity. Availability cascades are familiar in business, too. Reports of a success or a failure may spread like wildfire within or across companies, leading to judgments about other, apparently similar events or products. If a movie (*Star Wars?*), a television show (*The Walking Dead?*), or a book (involving Harry Potter?) does well, businesses will react strongly, eagerly looking for a proposal or a project that seems similar.

A by-product of availability is “associative blocking” or “collaborative fixation,” whereby strong ideas block the recollection of other information. This phenomenon is a big problem when a group sets itself the task of generating creative solutions. The innovative thinking of individual members is suppressed by the powerful ideas generated by other members.

In the actual world of group decision making, of course, people may not know whether other members’ statements arise from independent information, an informational cascade, reputational pressures, or the availability heuristic. They often overestimate the extent to which the views of others are based on independent information. Confident (but wrong) group decisions are a result.

Polarizing Groups

Polarization is a frequent pattern with deliberating groups. It has been found in hundreds of studies in more than a dozen countries. We found it in dramatic form when we conducted an experiment in which residents of two Colorado cities discussed their political beliefs.

A Tale of Two Cities

To examine the phenomenon of group polarization, the two of us (along with the social scientist David Schkade) created an experiment in group deliberation—one that, we believe, accurately reflects much deliberation in the real world.

We recruited citizens from two Colorado cities and assembled them in small groups (usually six people), all from the same city. The groups were asked to deliberate on three of the most contested issues of the time: climate change, affirmative action, and same-sex civil unions. The two cities were Boulder, known by its voting patterns to be predominantly liberal, and Colorado Springs, known by its voting patterns to be predominantly conservative. We did a reality check on the participants before the experiment started to ensure that the Boulder residents were in fact left of center and the Colorado Springs residents were right of center.

Group members were asked first to record their views individually and anonymously and then to deliberate together in an effort to reach a group decision. After the deliberations the participants were again asked to record their views individually and anonymously. Here’s what we found:

1. People from Boulder became a lot more liberal, and people from Colorado Springs became a lot more conservative. Not only were the group “verdicts” more extreme than the pre-deliberation averages of group members, but the *anonymous* views of individual members became more extreme as well.
2. Deliberation decreased the diversity of opinion among group members. Before the groups started to deliberate, many of them showed considerable divergence in individual opinions. Discussion brought liberals in line with one another and conservatives in line with one another. After a brief period of discussion, group members showed a lot less variation in the anonymous expression of their private views.
3. Deliberation sharply increased the disparities between the views of Boulder citizens and Colorado Springs citizens. Before deliberation, many people’s opinions overlapped between the two cities. After deliberation, group dynamics left liberals and conservatives much more sharply divided.

The earliest experiments on the polarizing effects of deliberation involved risk-taking behavior, with a clear finding that people who are initially inclined to take risks become still more so after they deliberate with one another. (Examples of risky decisions include accepting a new job, investing in a foreign country, escaping from a prisoner-of-war camp, and running for political office.) On the basis of this evidence the conventional wisdom became that group deliberation produced a systematic “risky shift.”

Later studies called this conclusion into question—and created a puzzle. On many of the same issues on which Americans made a risky shift, Taiwanese participants made a cautious shift. Even among American participants, deliberation sometimes produced cautious shifts. Cautious shifts took place most often in decisions about whether to marry and whether to board a plane despite severe abdominal pain.

What explains these unruly findings? As the psychologists Serge Moscovici and Marisa Zavalloni discovered decades ago, members of a deliberating group will move toward more-extreme points on the scale (measured by reference to the initial median point). When members are initially disposed toward risk taking, a risky shift is likely. When they are initially disposed toward caution, a cautious shift is likely. A finding of special importance for business is that group polarization occurs for matters of fact as well as issues of value. Suppose people are asked how likely it is, on a scale of zero to eight, that a product will sell a certain number of units in Europe in the next year. If the pre-deliberation median is five, the group judgment will tend to go up; if it’s three, the group judgment will tend to go down.

Even federal judges—experts in the law and supposedly neutral—are susceptible to group polarization. Research by one of us (Sunstein, along with David Schkade, Lisa Ellman, and Andres Sawicki) has found that both Democratic and Republican appointees show far more ideological voting patterns when sitting with other judges appointed by a president of the same party. If you want to know how an appellate judge will vote in an

ideologically contested case, you might want to find out whether she was appointed by a Republican or a Democratic president. It's a pretty good predictor. But in many areas of the law, an even better predictor is who appointed the other judges on the panel.

Why does group polarization occur? There are three principal reasons:

The first and most important involves informational signals—but with a few twists. Group members pay attention to the arguments made by other group members. Arguments in any group with an initial predisposition will inevitably be skewed in the direction of that predisposition. As a statistical matter, the arguments favoring the initial position will be more numerous than those pointing in another direction. Individuals will have thought or heard of some but not all the arguments that emerge from group deliberation. Thus deliberation will naturally lead people toward a more extreme point in line with what they initially believed.

Leaders can refuse to take a firm position at the outset, thus making space for more information to emerge.

The second reason involves reputation again. As we have seen, people want to be perceived favorably by other group members. Sometimes their publicly stated views are a function of how they want to present themselves. Once they hear what others believe, they will adjust their positions at least slightly in the direction of the dominant position in order to preserve their self-presentation.

The third reason stresses the close links among three factors: confidence, extremism, and corroboration by others. When people lack confidence, they tend to be moderate. The great American judge Learned Hand once said, “The spirit of liberty is the spirit which is not too sure that it is right.” As people gain confidence, they usually become more extreme in their beliefs, because a significant moderating factor—their own uncertainty about whether they are right—has been eliminated. The agreement of others tends to increase confidence and thus extremism.

Focusing on “What Everybody Knows”

Our last group problem may be the most interesting of all. Suppose a group has a great deal of information—enough to produce the unambiguously right outcome if that information is elicited and properly aggregated. Even so, the group will not perform well if its members emphasize broadly shared information while neglecting information that is held by one or a few. Countless studies demonstrate that this regrettable result is highly likely.

“Hidden profiles” is the technical term for accurate understandings that groups could but do not achieve. Hidden profiles are a product of the “common knowledge effect,” whereby information held by all group members has more influence on group judgments than information held by only a few. The most obvious explanation of the effect is that common knowledge is more likely to be communicated to the group. But faulty informational signals play a big role as well.

Consider a study by Ross Hightower and Lutfus Sayeed on how groups make personnel decisions. Résumés for three candidates for the position of marketing manager were placed before three group members. The experimenters rigged the résumés so that one applicant was clearly the best for the job. But each test subject was given a packet of information containing only a subset of attributes from the résumés.

Almost none of the deliberating groups made what would have been, if all the information were considered, conspicuously the right choice. The winning candidates tended to be those about whom all three test subjects were given positive information. Negative information about the winner and positive information about the losers (revealed to only one or two group members) did not reach the full group.

While many hidden-profile experiments involve volunteers from college courses, similar results have been found among real-world managers. In a study of hiring by high-level executives conducted by Susanne Abele, Garold Stasser, and Sandra I. Vaughan-Parsons, the experimenters did not control the information the executives had about the various candidates; instead, the executives did their own information searches. As a result, some information was known to all, some was shared but not by all, and some was held by only one person.

The finding? Common information had a disproportionately large impact on discussions and conclusions. The executives gave disproportionately little weight to valuable information held by one person or a few, and as a result made bad decisions.

The study also found that some group members are “cognitively central,” in that their knowledge is held by many other group members, while other group members are “cognitively peripheral,” in that their information is uniquely held. To function well, groups need to take advantage of cognitively peripheral people. But in most groups, cognitively central people have a disproportionate influence on discussion. A simple explanation for this is that group members *prefer* to hear information that is commonly held—and prefer to hear people who have such information. Cognitively central people are thus accorded high levels of credibility, whereas cognitively peripheral people are accorded low levels.

Making Groups Wiser



A central goal in group decision making should be to ensure that groups aggregate the information their members actually have and don't let faulty informational signals and reputational pressures get in the way. Here are six ways to achieve that goal, starting with the simplest:

FURTHER READING

Decisions Without Blinders

CHANGE MANAGEMENT ARTICLE by Max H. Bazerman and Dolly Chugh

How to remove cognitive blinders in your company.

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Silence the leader.

Leaders often promote self-censorship by expressing their own views early, thus discouraging disagreement. Leaders and high-status members can do groups a big service by indicating a willingness and a desire to hear uniquely held information. They can also refuse to take a firm position at the outset and in that way make space for more information to emerge. Many studies have found that members of low-status groups—including less-educated people, African-Americans, and sometimes women—have

less influence within deliberating groups (and may self-silence). Leaders who model an open mind and ask for candid opinions can reduce this problem.

“Prime” critical thinking.

We have seen that when people silence themselves in deliberating groups, it is often out of a sense that they will be punished for disclosing information that runs counter to the group's inclination. But social norms are not set in stone. Social scientists have done a lot of work on the importance of “priming”—that is, triggering some thought or association in such a way as to affect people's choices and behavior. In experiments on group decision making, engaging participants in a prior task that involves either “getting along” or “critical thinking” has been shown to have a big impact. When people are given a “getting along” task, they shut up. When given a “critical thinking” task, they are far more likely to disclose what they know. So if the leader of a group encourages information disclosure from the beginning, even if it goes against the grain, members will probably do less self-silencing.

Reward group success.

People often keep silent because they receive only a fraction of the benefits of disclosure. Careful experiments have shown that incentives can be restructured to reward group success—and hence to encourage the disclosure of information. Cascades are far less likely when each individual knows that he has nothing to gain from a correct *individual* decision and everything to gain from a correct *group* decision. The general lesson is that identification with the group's success is more likely to ensure that people will say what they know, regardless of whether it fits “the party line.” (This, by the way, is one reason that prediction markets work and deserve careful attention.)

Assign roles.

To understand one especially promising strategy, imagine a deliberating group consisting of people with specific roles that are known and appreciated by all members. One person might have medical expertise; another might be a lawyer; a third might know about public relations; a fourth might be a statistician. In such a group, sensible information aggregation would be far more likely, simply because every member would know that each of the others had something to contribute. Indeed, experiments have found that the bias in favor of shared information is reduced when test subjects are openly assigned specific roles. If a group wants to obtain the information that its members hold, they should be told before deliberations begin that each has a different and relevant role—or at least distinctive information to contribute.

Appoint a devil's advocate.

If hidden profiles and self-silencing are sources of group failure, a tempting approach is to ask some group members to act as devil's advocates, urging a position that is contrary to the group's inclination. Those who assume that role can avoid the social pressure that comes from rejecting the group's dominant position, because they have been charged with doing precisely that. But be careful with this approach: Authentic dissent and a formal requirement of devil's advocacy are different; the latter does far less to improve group performance, because members are aware that it's artificial—a kind of exercise or game.

Establish contrarian teams.

Another method, related to appointing a devil's advocate but shown to be more effective, is “red teaming.” Red teams come in two basic forms: those that try to defeat the primary team in a simulated mission, and those that construct the strongest possible case against a proposal or a plan. Red teams are an excellent idea in many contexts, especially if they sincerely try to find mistakes and exploit vulnerabilities and are given clear incentives to do so.

The Delphi method.

This approach, developed at the RAND Corporation during the cold war, mixes the virtues of individual decision making with social learning. Individuals offer first-round estimates (or votes) in complete anonymity. Then a cycle of re-estimations (or repeated voting) occurs, with a requirement that second-round estimates have to fall within the middle quartiles (25%-75%) of the first round. This process is repeated—often interspersed with group discussion—until the participants converge on an estimate. A simple (and more easily administered) alternative is a system in which ultimate judgments or votes are given anonymously but only after deliberation. Anonymity insulates group members from reputational pressures and thus reduces the problem of self-silencing.

Group failures often have disastrous consequences—not merely for businesses, nonprofits, and governments, but for all those affected by them. The good news is that decades of empirical work, alongside recent innovations, offer some practical safeguards and correctives that can make groups a lot wiser.

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This article is about LEADING TEAMS

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2 COMMENTS

Michelle Vigen 5 days ago

A wonderful overview of the various influences that we all fall victim to (whether we're willing to admit it or not) - We like to look to Sunstein's work here in the sustainability policy world, but they have equally important application in leadership and management. Great article. I think the one question I have is that most of these pitfalls occur when the group is working together. "Wisdom of Crowds" outlines a group think process based on the anonymity that's described at the very end of this article. I think when we talk about groups we need to ask what kind of groups we're working with. I work with teams, stakeholder engagement - all occasions where social influences run free. This helps me put the "wisdom of crowds" concept into context. Thank you!

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