How to kill chaos with with kindness

Randall S Peterson explains why a new methodology for the investigation of personality traits has profound implications for building teams

"We know, of course, that teams are central to human accomplishment," says Randall S Peterson, who is, after all, Professor of Organisational Behaviour at London Business School. It's the reason why the "Big Five" personality types – neuroticism, extraversion, openness, conscientiousness and agreeableness – have long attracted the attentions not merely of academic psychologists, but business leaders and managers intent on assembling a group of people to execute their designs in the most efficient way.

However, whereas research has been able to demonstrate consistent cause-and-effect relationships between the first four of those personality types and team performance, their findings regarding agreeableness (behaving in an apparently humble and cooperative way), have demonstrated a non-significant and highly variable relationship with team performance.

When Soo Ling Lim, Associate Professor at the Department of Computer Science of University College London, approached Professor Peterson with a proposal to use computer simulation to model the impact of each of the Big Five personality dimensions in groups, he was intrigued. Dr Lim wanted to simulate how personalities impact groups, but lacked suitable data to run the simulation.

Fortunately, Professor Peterson had access to a unique dataset that lent itself nicely to the task: 10 years-worth of data on LBS MBA students evaluating how they performed in 'hard-fact' subjects such as finance, economics and accounting, where there tends to be a right and wrong answer, and in courses such as organisational behaviour and strategy, where questions related more to tasks with a degree of uncertainty embedded in them (in other words, there were better and worse answers to these questions but not right and wrong ones). The dataset thus gave the researchers information on individuals in teams performing tasks with and without uncertainty, so they were able to simulate how the different personality factors emerged in a team – "and see if there's anything that we don't already know."

New interdisciplinary approach

Using a novel interdisciplinary computational modelling approach based on agent-based modelling (ABM) and genetic algorithms (GA) that is grounded in personality psychology, the researchers used computer simulation to simulate the impact of personality types on groups.

The results confirmed many of the things that are already known, such as the fact that extraversion and conscientiousness are helpful in a group; no matter what type of task the group is engaged on – so no surprise there. The researchers then entered a variable for predictability or unpredictability and here there was a surprise, as Professor Peterson explains: "We found that the more unpredictable the environment, the more important agreeableness as a quality becomes. We identified that higher average team agreeableness correlates with better performance for tasks with uncertainty, and that wasn't predicted."

The study, entitled *Kill chaos with kindness: Agreeableness improves team performance under uncertainty*, was also notable because it develops an alternative way of generating a new theory. "It is the first time in this field that an agent-based model has been used to simulate how individuals with different personality traits perform as a team," says Professor Peterson.

This is highly significant from the point of view of leadership, because historically management selection systems held that

agreeableness didn't really matter one way or another. "It may have been seen as 'a nice-to-have', Professor Peterson adds, "but, beyond that, management theory and practice held that it was not something that predicted hard performance measures, so they basically ignored it. This is the first time anybody has said, 'This is really important, because it's actually a positive outcome predictor'. The findings strongly suggest we shouldn't be ignoring agreeableness anymore – we should be searching for it in whoever we appoint in managerial positions."

Why there's never been a better time to be agreeable

"Another reason why the findings are important now are the action items coming out of it them," Professor Peterson points out, "because, of course, we're living in a world that is becoming less and less predictable, less and less certain. To be able to predict outcomes using a variable that's becoming ever more important, and in a context that's becoming more urgent, grabs your attention."

The findings also suggest that people who are low on agreeableness are likely to be increasingly unproductive in an uncertain world. "In times when running a business or managing a team was more straightforward," says Professor Peterson, "a more categorical 'it's-my-way-or-the-highway' approach might have fared better for accomplishing certain tasks. But what people who deploy that closed right answer/wrong answer approach forget is that the distinction between fact and judgment becomes blurred. They like to make judgments that are yes or no, right or wrong. They're just not able to get out of that hard-judgement mode and beyond focusing on what's literally true. That means their judgment is often not very well-informed, which means it is not helpful, at best."

Today, Professor Peterson argues, when companies need to test, experiment and constantly iterate processes and products, an approach based on the belief that there's a right or wrong answer, and where management says, "This is how it is and I don't care whether you like it or not" – which is how many experts proceed – is not conducive to success on many fronts: "You can still go to the expert and try to ascertain helpful facts and information", he says, "but, in a scenario where there's no single right answer, you have to add your judgment on top of that."

This is where agreeableness comes in, because if you're high on the agreeableness scale, you will tend naturally to want to test your opinion out with other people: "It impels you to want to talk to lots of people and ask, 'Does this make sense? Does that make sense?' And, if lots of people think it does make sense, it's more likely to be a solution that will work for most people, almost by definition."

Contribution to theory and practice

The researchers believe their findings are significant both in terms of management practice and theory.

With regard to practice, they demonstrate that task uncertainty is a primary contingency in the relationship between agreeableness and team performance.

Professor Peterson says, "The model shows that agreeableness positively predicts group performance for tasks with uncertainty. Specifically, it predicts significant higher agreeableness for best teams than worst teams when engaging on tasks that carry uncertainty.

"For the first time, task uncertainty, which is modelled as 'noise' in the paper, has been identified as a moderator of the dependency between team performance and agreeableness."

'Our findings strongly suggest we shouldn't be ignoring agreeableness anymore – we should be searching for it in whoever we appoint in managerial positions'

This findings are especially significant today because, says Professor Peterson, "Uncertainty characterises the world we live in. Climate change is accelerating fast, new technology is evolving faster than most of us can keep up with, job security is low in many places and political systems in many countries are highly unstable. Our findings suggest that agreeableness may play a key role in facilitating teamwork and organisational performance in this volatile new world."

Revealing the dependencies of a complex system

The paper also makes a significant contribution to the literature by demonstrating the usefulness of combining evolutionary computation with ABMs to predict the effects of personality on teamwork.

"By using a GA to examine the extremes of the ABM, we were able to discover the dependencies of a complex system," Professor Peterson explains. "With noisy problems, extraversion, openness and conscientiousness consistently positively predict team performance, while neuroticism consistently negatively predicts performance.

"But the most surprising and novel findings concern the role of agreeableness – for tasks with uncertainty, the best teams have higher agreeableness than worst teams, and worst teams in non-noisy tasks have lower agreeableness than worst teams in noisy tasks."

"I think the other point about the study is that it uses big, big data," Professor Peterson says. "It encompassed hundreds of groups and thousands of people – so there's a lot of data behind the findings.

"The approach provides a new methodology for the scientific investigation of teamwork; making new predictions, improving our understanding of human behaviour, and even improving team performance for organisations." □

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