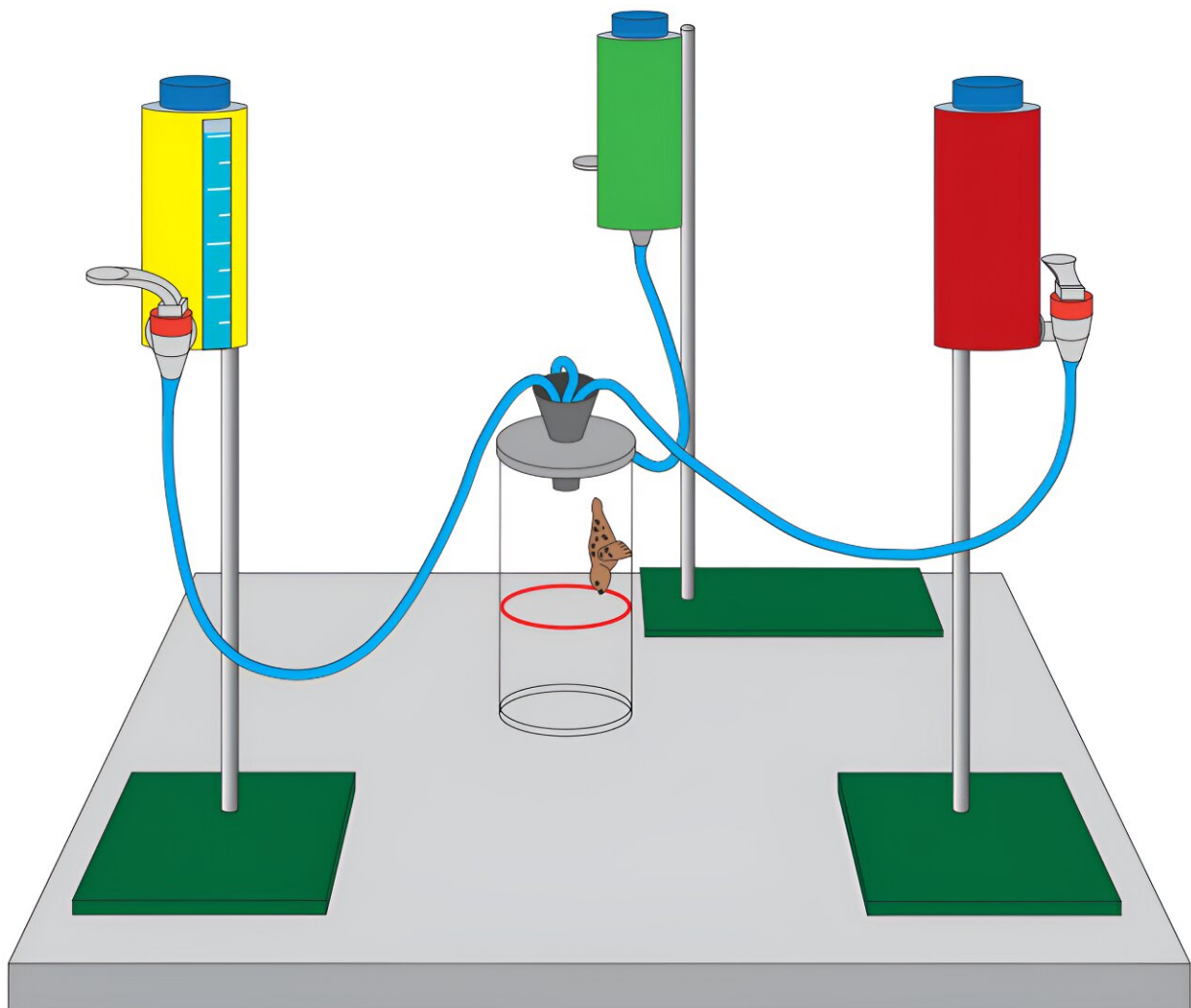


Children contribute to group projects when there are clear and common goals, research shows

August 29 2024



Schematic of the water game. Each child sat in front of a water bottle filled with 400 ml water at the start of each round. Each bottle had a tap that children could

use to release water into the central pool (transparent container). Credit: *Psychological Science* (2024). DOI: 10.1177/09567976241267854

Children can work together to reach a target that benefits a whole group even if it is at a personal cost to themselves, a new study has shown. The study is [published](#) in the journal *Psychological Science* and involved researchers from the University of Plymouth (UK), Freie Universität Berlin and the Max Planck Institute for Human Development (Germany), and the IESE Business School (Spain).

Researchers invited groups of six to 10-year-olds to take part in a game where they were each given containers of water and could decide how much of it to offer into a common pool.

If the group contributed a certain amount of water it resulted in benefits for the whole group, but children also obtained benefits for any water they kept.

At the same time, the participants were either given feedback about their own outcomes in the game or about everyone's outcomes.

The results showed the majority of groups achieved their objectives and cooperated until the last round of the game, even when children observed the outcomes of others within their groups.

However, those who did see everyone's outcomes were somewhat less likely to keep reaching the threshold as the game progressed, and differences in individual outcomes became more noticeable.

Researchers say the findings provide valuable insights into how groups of people can work together to overcome communal challenges and

demonstrate the effectiveness of setting clear and unambiguous targets.

Dr. Patricia Kanngiesser, Associate Professor in Psychology at the University of Plymouth and the study's lead author, said, "A lot of the challenges facing society today involve choices between one's self-interest and contributing to the greater good. That is certainly the case if we think about things like [climate action](#), where targets can only be achieved if people and nations work together.

"Our study shows that working towards a clear target can yield results that ultimately benefit everyone. And even children as young as six can do it."

The study is the latest by Dr. Kanngiesser and Plymouth colleague Dr. Jan Woike to use games to study human behavior and investigate ways to promote cooperation.

It also allowed them to explore findings from previous research, which showed that having the opportunity to compare their own and others' outcomes can lead to competition and decrease willingness to contribute to the common good.

For the purposes of this study, children had the opportunity to talk during the game and spoke, for example, about reaching the common goal.

When children had the chance to see everyone's outcomes, they compared their own and others' performances more frequently.

They also talked more in general and mentioned the act of giving water more, showing that children reacted to different situations in a flexible manner and increased their efforts to coordinate when circumstances demanded it.

Dr. Kanngiesser added, "This game focused on children at an age where they develop a sense of competition. We might have expected that to become a factor when the children realized how others in their group were behaving, but that was largely not the case. It demonstrates that with meaningful targets and the right feedback, we can help individuals to look beyond their own self-interest towards action that has the potential to benefit society more broadly."

How the game worked

The study recruited 240 children from Germany and India. In the game, groups of three children were given containers of water and were invited to contribute a proportion of their water to a common pool. They individually kept any water that they did not contribute.

Reaching a certain threshold in that pool would enable them to help a thirsty animal and everyone in the group received the same amount of additional water, irrespective of the degree to which they had contributed.

The more water each child collected, the more rewards the child received at the end of the game. This created an incentive for children to try to keep as much of their own water as possible.

The game consisted of eight rounds. Children in half of the groups were only shown how much [water](#) they had collected themselves after each round. In the other groups, [children](#) saw how much they and everyone else had collected.

More information: Patricia Kanngiesser et al, Children Sustain Cooperation in a Threshold Public-Goods Game Even When Seeing Others' Outcomes, *Psychological Science* (2024). [DOI: 10.1177/09567976241267854](https://doi.org/10.1177/09567976241267854)

Provided by University of Plymouth

Citation: Children contribute to group projects when there are clear and common goals, research shows (2024, August 29) retrieved 30 August 2024 from

<https://medicalxpress.com/news/2024-08-children-contribute-group-common-goals.html>

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