

Study tracks how we decide which groups to join

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Credit: AI-generated image ([disclaimer](#))

Researchers have used high-definition video cameras on the roof of a large indoor stadium to track how strangers formed groups.

They found that [individuals](#) were likely to join groups containing members with similar physical traits – including levels of attractiveness.

The [researchers](#) also discovered that attractive women were the most likely to be placed in the physical centre of [social groups](#). The study in the journal, *PLOS ONE*, involved researchers at the University of Otago, New Zealand; the University of Oxford, UK; the University of Maryland, USA; and a computer animation company. Their paper also finds that individuals standing closest to others were most likely to shirk group tasks. This supports previous research on "social loafing", a phenomenon whereby the presence of others appears to impede helping behaviour.

Previously, little empirical research has been done into the critical point at which groups form, although a wealth of literature suggests that groups do not assemble randomly but individuals are drawn to those they identify with. Researchers filmed and tracked sets of 40-50 strangers, to see how they interacted in a space of 600m². A total of 172 students took part, knowing they were participating in a social science experiment and that they might be filmed. They were not told the purpose of the experiment and did not know their movements would be tracked.

Each person taking part in the experiment was given a numbered cap to wear, so they could be identified by the cameras on the roof as they moved around. They were also photographed on the day by the research team; with the [physical attractiveness](#) of each participant rated by three members of the research team to produce an averaged single attractiveness score. This score was later matched with observations about how individuals grouped together.

Participants were asked to 'mingle' while the researchers set up the study, and to form groups of any number and composition and raise their hand once this was done. They were also directed to form new groups eight more times. The researchers found that, on average, individuals joined up to make groups of six, and that they were more likely to approach others of similar attractiveness.

Lead author Professor Jamin Halberstadt, from the University of Otago, said: 'Women and attractive individuals were also more likely than men and unattractive individuals to be in the centre of their groups. Our analysis could not confirm whether this was because they acted as "social attractors", although this is the likely explanation—as we didn't find evidence that they were jumping into the middle of the group as it formed.'

Finally, participants were given a group task to gather 500 one-inch washers, randomly scattered around the stadium, and deposit them one at a time in a large basin in a corner of the stadium. The cameras picked up the link between social distance between the participants earlier in the experiment and how they cooperated with others on the later task. There was a significant association between how close participants stood to others (in mingling or group-forming tasks) and the effort on the task later, with those who stood closest to others exerting the least.

Co-author Dr Jonathan Jong, from the Institute of Cognitive and Evolutionary Anthropology at the University of Oxford, said: 'We were able to predict how someone cooperated on a task with how they embedded themselves in the group earlier on. This finding is consistent with the theory that people tend to put less effort into a task if they are in a group rather than working alone.'

The paper comments that up until now, researchers of [group](#) behaviour have either sacrificed the spontaneity and freedom of movement of field observations, or the control and precise measurement of the laboratory setting. It concludes that the novel method of using a stadium and cameras to observe groups dynamics may overcome these problems.

Professor Halberstadt said: 'We've now found a happy medium by using a stadium-size laboratory and applying unobtrusive state-of-the-art tracking technology to observe participants' social behaviour.'

Dr Jong said: 'Our main breakthrough came in knowing what to film and how to analyse the film later. Most measures of cooperation are pretty overt or direct, but we looked at the subtleties of how people moved during the cooperation task, and devised algorithms to analyse the data in order to obtain the results.'

Provided by University of Oxford

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