It’s easy to support one another when there’s enough to go around, but zero-sum situations in which one person’s loss is another’s gain are known to bring out people’s worst tendencies—and the reality television show *Survivor* is no exception.

During each season, 16, 18, or 20 contestants are split into teams called “tribes” and marooned in a tropical location to battle the elements, grueling physical challenges, and each other for a shot at winning $1 million. Lying and other forms of social manipulation are central to most players’ strategies, but that doesn’t mean they can get away with anything—after each set of challenges, players who lost are sent to “tribal council” where contestants can hold each other accountable by voting someone out of the game.

Theoretically, contestants are voted out purely on the basis of their strengths and weaknesses as a player, but it’s clear to many viewers that women and people of color are more likely to find themselves on the chopping block. To put this to the test, and to explore how racism and sexism can influence people’s
behavior in zero-sum situations more generally, in new research published in Psychological Science, Erin M. O’Mara Kunz (University of Dayton), Jennifer L. Howell (University of California, Merced), and Nicole Beasley (University of Dayton) analyzed how 731 players voted across 40 seasons of Survivor.

“The results of this study confirmed what I, and I think many others who are fans of the show, had been observing—that there is indeed racial and gender bias when it comes to how contestants voted on seasons 1–40 of Survivor,” O’Mara Kunz said in an interview. Overall, White men were found to last longer in the game than White women and BIPOC players. The exact effects of racial and gender bias differed significantly throughout the three phases of Survivor’s gameplay, however.

In the first “pre-merge” portion of Survivor, teams of contestants compete in challenges to win either rewards (such as food and camping equipment) or “immunity” for their group. When a tribe loses an immunity challenge, they then have to vote one of their own members out of the game.

During this stage of the game, O’Mara Kunz and colleagues found that BIPOC players were 59% more likely to be the first person voted off of their tribe compared with their White team members. But the effect of gender bias was even more salient as women of any race were 72% more likely than men to be voted out first. BIPOC and women players were also over 30% less likely than White players and men to make it to the end of the team-competition portion of Survivor.

“The effects for gender bias were stronger than that of racial bias, with much of this bias being driven by the double jeopardy that faces women of color, i.e., that persons with two stigmatized identities endure double the bias compared to persons with one stigmatized identity,” O’Mara Kunz said.

Generally speaking, in the team-competition portion of Survivor, contestants tend to focus on voting out team members they perceive to be weaker in order to increase their chances of staying in the game by winning the next team immunity challenge—but this explanation does not fully explain these voting outcomes, O’Mara Kunz and colleagues wrote. When the researchers tasked 182 participants with rating the physical strength and intelligence of 100 Survivor contestants upon viewing their official cast photos, perceived physical strength and intelligence were not found to be meaningfully associated with a player’s likelihood of being voted out of their tribe first. This suggests that while players may use “weakness” as an excuse for voting out women and BIPOC players earlier in the game, that is not what is driving racial and gender bias during voting, O’Mara Kunz and colleagues wrote.

This picture changes, however, during the second half of the game, at which point the remaining 10 or so players “merge” into one group and must compete for individual immunity, which protects one player from being voted out at the next tribal council. In the individual-competition portion of the game, O’Mara Kunz and colleagues wrote, players are now incentivized to vote out the strongest contestants in order to increase their own chances of winning individual immunity and becoming a finalist.

In the researchers’ analysis, race and gender did not appear to influence players’ chances of becoming a finalist after making the merge. Unfortunately, this more egalitarian wind appears to fizzle out during the last stage of Survivor: the jury vote. Once two to three finalists remain on the show, they must convince a jury of seven to ten players whom they voted out of the game to award them the $1 million. Theoretically, the jury is meant to vote for the person whose gameplay best reflects the shows’ stated
ethos—“Outwit, Outplay, Outlast”—but O’Mara Kunz and colleagues’ work suggests that not every player is equally likely to receive those jury votes. Though race was not found to significantly influence a finalist’s likelihood of receiving the $1 million, women were 63% less likely to win when the other finalist was a man.

This research adds objective evidence to the existing literature on how systemic biases can play out in zero-sum situations, O’Mara Kunz and colleagues wrote. These findings are consistent with previous research on aversive racism and sexism, the researchers explained, which suggest that people who view themselves as more egalitarian may still hold negative automatic attitudes that lead them to discriminate in situations in which they can attribute their behavior to something else.

“Contestants may be more likely to vote out women and BIPOC contestants during the tribe portion of the game because they can attribute their discrimination to nonracial factors, such as voting out ‘weaker’ tribe members in order to ‘keep the tribe strong’—and thus not appear racist or sexist; this is an excuse they cannot use in the individual competition,” the researchers wrote.

In future work, O’Mara Kunz said she would like to explore how individual-level attitudes may influence voting behavior as well as under what conditions group-level stereotypes may be more likely to influence decision-making.

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