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Opinion

Study of unconscious bias withstands harshest scrutiny

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In a recent study examining NBA foul calls from 1991-2004, we find that players earn up to 4.5 percent fewer fouls and score up to 2.5 percent more points on nights in which a greater share of the refereeing crew is of their race.

These effects are particularly stark in light of the mismatch of the racial composition of the players and referees: In our sample, blacks account for around four-fifths of playing time, but only three-tenths of officiating time.

Had the league employed a race-normed refereeing pool, around 1.8 percent of all game outcomes would have changed.

In light of the media attention paid to our study, the NBA responded somewhat predictably, denying our findings.

To understand why these findings are unlikely to be confounded by other factors, note that if a scientist wished to study whether the racial composition of the officiating crew affected outcomes, they would randomly assign different crews to different games, and compare outcomes. Fortunately for us, this is precisely what the NBA does, and it is the fact that we are analyzing an effective "experiment" generated by the NBA referee-assignment process that makes our results so sound.



As the discussion of our findings moved from social scientists discussing the merits of the particular findings to media pundits relying on second-hand

accounts of our paper, the quality of analysis declined sharply. We thought that the debate had hit rock bottom when Charles Barkley opined on national TV that we were "jackasses," noting that "there's more black people in the game, so there's gonna be more fouls on them." (Yes, we had taken account of this!)

Yet our disappointment in Barkley's willingness to disparage our work without bothering to read it is only minor relative to the recent column in this journal by fellow economist Andrew Zimbalist (see SBJ, May 21-27 issue). Given his status as a well-respected sports economist, we felt it necessary to address some of the specific issues he used to discredit our findings.

Zimbalist and others have noted that in using box-score data we fail to capture which of the three referees blew the whistle. To be clear, our research only claims to find a relationship based on the racial composition of the refereeing crew. This relationship exists no matter who blew the whistle. Moreover, our research also details how outcomes vary for individual players when the refereeing crew is all-white or all-black. And our finding persists: White players earn fewer fouls under all-white crews than under all-black crews.

While the NBA does have data on who blew the whistle for any particular play, they are unwilling to share it with us. Commissioner David Stern hired consultants to analyze 2 1/2 years of these data, leading him

Individual players, who receive a few hundred foul calls a season, could not hope to discern a pattern apparent only after analyzing 600,000 foul calls, Price and Wolfers say.

to claim that his “cut at the data is more powerful, more robust, and demonstrates that there is no bias.”

Yet when the NBA subsequently released their analysis to both ESPN and The Wall Street Journal, each found that the NBA’s study yielded results supportive of our original findings. This analysis was based on a careful reading by leading Columbia University statistician Andrew Gelman (“What the statistics tell you is that there’s a pattern in the data that’s not explainable by chance”); UC Irvine statistician Hal Stern (the NBA’s study “can’t be said to disprove the Price-Wolfers analysis”); and University of Chicago economist Thomas Miles (“it supported what he [Wolfers] said at the beginning.”)

Zimbalist also claims that our study fails to find corroborative effects on flagrant or technical fouls. In fact, we find an even larger effect on flagrant and technical fouls. A player is almost twice as likely to get a flagrant foul and 16 percent more likely to get a technical foul when facing three referees of the other race compared with his own race. Given the infrequent nature of these types of fouls, it is hard to obtain very precise estimates, which means that the actual effect might be smaller (but could be larger as well).

In dismissing our findings, Zimbalist notes that “it is easy to manipulate results”— a serious charge to be sure, especially for those of us whose livelihood is based on our intellectual integrity. Zimbalist continued “that the way a test is structured is crucial,” and so we followed up with Zimbalist, asking him for suggestions for statistical tests that he thought we ought to try.

As it turned out, every single test he suggested was already in our research study.

Zimbalist claims that our data are out of date and may simply reflect “prejudiced attitudes in the 1990s that faded out in the 2000s.” Yet he ignores the fact that we have posted an online appendix showing that the patterns we observed from 1991-2004 persisted over an out-of-sample test extending from the 2004-05 season to the recently completed 2006-07 regular season.

Finally, Zimbalist harps on the fact that our research is not yet published in a peer-reviewed academic journal. This is true, but it does not render our findings false. And he is wrong to infer our research has not undergone a rigorous process of peer review. We have shared our work with hundreds of economists, and it has been subject to intense scrutiny at numerous seminars in leading universities. (And indeed, this is how the press learned of our study.) World-class economists, including Steve Levitt, Ian Ayres, Derek Neal and Miles have all subsequently been quoted in the press citing our work with approval.

By contrast, Zimbalist relies on a different set of experts, with the observation that “players have said that these claims are nonsense.” But the point of our study is to examine unconscious bias that may occur in the blink of an eye. It is not surprising to hear conscious denials of unconscious bias. Moreover, individual players, who receive only a few hundred foul calls per season, could not hope to discern a pattern that became apparent only after our analysis of 600,000 foul calls.

With an unintended irony, Zimbalist concluded his commentary on our research by noting that “the press often seems more intent on getting a scoop than on getting it right.” It is an even greater shame when this occurs under a pseudo-scholarly guise.

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