

Discrimination among MLB Umpires

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Introduction: One of the principle functions of any league is to establish the proverbial "level playing field." Whereas sometimes it is a matter of interpretation how to best manifest this principle, it is straightforward that the games themselves ought to be officiated similarly for each competitor and team. As of late officiating has come under increasing scrutiny in major league sports, some of which has come from the sport economics literature (Price & Wolfers, 2007; Parsons, Sulaeman, Yates, & Hamermesh, 2007). Parsons and associates used data from 2004-2006 to find weak support for preference given by umpires to pitchers of like ethnicity. They also found the effect is only significantly different from zero when umpires were not monitored by the QuesTec system.

Purpose: The focus of this study is to gauge whether the calling of balls and strikes has been applied uniformly for all players. Specifically, if it were the case that there existed a pattern of inequitable application of an objective rule, like the calling of balls and strikes, according to a player's race, this would not only be a case of direct unfairness, but discrimination. We therefore pose the following questions: 1) Does the race/ethnicity of the pitcher impact whether a pitch is called a ball or a strike? 2) Does whether the umpire and pitcher match race/ethnicity make a pitch more (less) likely to be called a strike?

Methods: Data detailing every pitching performance in MLB from 1997-2006 were obtained from baseball-reference.com. Each observation covered a single pitching outing. The information provided included the pitcher's name, plate appearances (batters faced), total pitches, total strikes, strikes swinging, strikes in play (any batted ball in play is tallied as a strike), foul strikes, total balls, intentional balls, and the name of the home-plate umpire. Player race/ethnicity was then determined by internet investigation. The race identification process began by searching for a player's profile on espn.com and was completed when the researcher could identify the player based on his background information, including name origin, place of birth, and photos. Among the sources that figured prominently in these searches were Wikipedia's list of Hispanic players, baseball-reference.com, mlb.com, and baseball-almanac.com. Two individuals independently researched each pitcher's background and classified the pitcher as White/Caucasian, Black/African-American, Hispanic/Latino, Asian, or any combination thereof. Players for whom there was not sufficient information or lacked the consensus of both researchers were omitted from the analysis. A similar process was utilized to classify umpires. Mlb.com's umpire page served as the primary resource for this investigation. Ultimately umpires were classified as White, Black, or Hispanic. The total number of strikes swinging, foul balls, strikes in play, and intentional balls were tabulated for each race and ethnic group in addition to the number falling into our categories of interest-strikes looking and unintentional balls. These figures were collected twice-once for any player identified with the group, then once for players identified only with only one race or ethnic group, referred to as 'distinct.' Only distinct values are considered hereafter.

Results: This research is currently ongoing, but one cannot help but notice that an overwhelming majority of pitches are thrown by White/Caucasian pitchers and are judged by White/Caucasian umpires (66.72%). While White pitchers tossed almost 2.7 million called pitches, Black and Asian pitchers each threw only around 100,000 pitches over the same time period. Similarly, White umpires called almost 3.4 million pitches, while Hispanic and African-American umpires called just 316,514 pitches combined.

We find there is variation in the called strike percentage of umpire groups, pitcher groups, and, the focus of this research, umpire-pitcher subgroups. Some patterns emerge when taking a close look at the called strike percentage of these subgroups. The percentage for White pitchers was highest with Hispanic umpires (31.66%), followed by White (31.00%) and Black (30.58%) umpires respectively. This pattern holds for Hispanic pitchers (31.08%; 30.51%; 29.66%) and Black pitchers (30.06%; 29.75%; 28.32%) too. Interestingly, Asian pitchers' called strike percentage was lowest with Hispanic umpires (29.88%, compared to 30.31% with White umpires and 30.34% with Black umpires). When ranking across umpires, each group called the highest strike percentage for White pitchers. Additionally, the lowest called strike percentage among any umpire-pitcher match came with Black umpires and Black pitchers. Furthermore, while Hispanic pitchers had a higher called strike percentage when a Hispanic umpire was behind the plate relative to a White umpire (+0.572%), this was still less than the 0.662% increase that Caucasian pitchers experienced-31.661% versus 30.999%-when Hispanic versus White umpires called pitches. These preliminary findings point to discrimination, but not by the majority group-White pitchers stood to benefit when Hispanic rather than Caucasian umpires are behind the plate, benefited more from Hispanic umpires' relatively large strike zones than Hispanic

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pitchers did, and African-American pitchers got the fewest strike calls when matched with an African-American umpire. Data analysis is currently underway for the impact of pitcher and umpire fixed effects.

Discussion: Preliminary analysis shows that there are differences in the called strike percentages for different ethnic/racial groups. As there is an objective measure of pitch quality outlined in MLB's rulebook, it is evident rules have been applied unfairly, but not necessarily by the majority group. Why all groups of pitchers except for Asian pitchers receive their highest called strike percentage from Hispanic umpires is also a question for further examination. So too the presence of discrimination by minorities is especially notable given it rejects previous research employing a smaller dataset. Perhaps future research may investigate what, if anything, MLB did to foster a culture promoting this brand of discrimination. Given the existence of the QuesTec system to evaluate balls and strikes by cameras and computer monitors, this research suggests there is a benefit to using the system to accurately judge pitches and not merely evaluate MLB umpires after the fact.