

MU professor uses 'veil of darkness' method to distinguish racial disparity from bias

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After years of saying the Columbia Police Department doesn't have a racial bias problem, Columbia Police Chief Ken Burton received backup from an MU professor last month.

Jeff Milyo, MU professor of economics and a senior fellow at the libertarian Cato Institute, is asserting this: A racial disparity isn't necessarily a bias. Milyo says the real test for bias in the Attorney General's annual traffic stop data is the "veil of darkness" method — which he says can uncover bias if there is one.

"Veil of darkness" is based on the assumption that a driver's race can't be seen at night. But it has its detractors who say it doesn't take into account factors like proximity of police officer to driver and profiling tactics not dependent on race.

Milyo said he approached Burton last summer and offered to give traffic stop data another look. Milyo's new report and analysis of the data was presented to the Columbia City Council at its Aug. 23 work session by Dale Roberts, executive director of the Columbia Police Officer's Association, which said in an earlier news release that "the CPOA emphatically rejects the false narrative claiming any racial bias."

Among the report's critics are Race Matters, Friends and a criminologist from St. Louis. The advocacy group says Milyo and the city keep changing the subject — the problem is systemic racism and not individual bias among police officers — and Richard Rosenfeld, of the University of Missouri-St. Louis, has questions about the "veil of darkness" method itself.

What the report found

Black drivers were pulled over four times more than white drivers last year while being only 9.7 percent of the population, according to the Attorney General's report. The disparity index for black drivers, which measures whether a particular racial group is overrepresented in traffic stops, has also risen steadily in recent years.

Disparity indexes in Columbia by race

But Milyo said these disparities have no correlation to racial bias in the police department because they can be caused by many factors. Socioeconomic differences — like education, income and location — may account for disparities, Milyo said.

The example of the broken tail light is often cited in these discussions. A driver who doesn't have enough money to fix a broken tail light is more likely to get pulled over. The role race plays in that equation is disputed.

Another factor that Milyo said could account for disparities is the outcome of interdiction patrols, which are meant to stop crime from happening. That's what police are doing in most traffic stops they make in Columbia, working to "prevent criminal activity by targeting persons with outstanding warrants or contraband," Milyo's report said.

"Black drivers who are stopped are more likely to have outstanding warrants," Milyo said in an interview. "That is what the data says."

Disparity indexes for warrants in Missouri

This is, according to the study, because black and non-black drivers are not the same in every respect.

"There are disparities; it is more about what those disparities mean," Milyo said.

Suhwon Lee, associate teaching professor of statistics at MU, said while Milyo's data analysis is "quite good," the report would benefit from more statistical analysis with different methods.

"Since this is such socially sensitive material, it would be good to try other methods and see if there is anything we missed," she said.

Milyo's report has not been peer-reviewed or "refereed," which Milyo said is a "formal process" scholarly articles use that's different than the peer-review process. Milyo said he is not planning to submit to a journal for publication because they aren't looking for what he called his "narrow applications of analytical tools."

According to previous *Missourian* reporting, this isn't the first time Milyo has done similar research on this topic. He served on the Columbia's Citizen Police Oversight Committee, where he gave a presentation on understanding disparity data in 2008.

Milyo explained in the presentation that there are many causes of disparities and that a more detailed analysis of the data is possible to determine what the disparities mean.

'Veil of darkness' and its limits

Milyo's report wraps up with a set of "lessons for policy makers." He recommends:

Analyzing the data as he has done and making policies based on the findings. Ceasing to hold police accountable for racial disparities, which he calls "counterproductive." acknowledging that the Attorney General's report is "essentially useless for monitoring racial profiling."

He also suggests the Attorney General's office implement the "veil of darkness" method, which is a statistical approach to testing for racial profiling and what he says is the real test for bias.

The method is based on the notion that officers can't tell the race of a driver at night and, therefore, can't pull them over based only on their race.

The idea is to compare the number of stops of a particular racial group during the day to the number of stops of that racial group at night. If members of racial group are stopped at a higher rate during the day than at night, one could say with greater confidence there's evidence consistent with racially profiling.

"If you pull someone over not knowing their race, it gives you a clearer picture on whether racial bias is used," Milyo said.

Various scholarly articles assert the "veil of darkness" method is "scientifically sound." A journal article by Jeffrey Grogger and Greg Ridgeway, the researchers credited with pioneering the method, says it's cost-effective and has fewer limitations than other tests for racial profiling.

Milyo said he found evidence consistent with racial profiling of black drivers in traffic stops in 2014-2015 by using the "veil of darkness" method. But, he said, the test didn't provide evidence consistent with racial profiling for 2016-2017 regardless of the disparities present in the Attorney General's report.

The method isn't perfect, he acknowledged.

"First, some street locations are well-lit at night, so the strength of the natural experiment varies with geographic location within a city," he wrote in his report. "Second, it is possible that black drivers choose to drive more carefully (e.g., by obeying the speed limit) in daytime, precisely because they are at potentially higher risk to be stopped during the day."

Milyo's report said these concerns can be addressed by controlling for location and different types of stops. But a study conducted in 2017 using Massachusetts traffic data said that even while holding the location constant, driving habits may affect the validity of the "veil of darkness" test.

The paper's findings indicate minority drivers — and only minority drivers — were more likely to speed at night than during the day, which the paper argues is evidence consistent with racial discrimination. Minority drivers know they are more likely to get pulled over during the day, so they drive more cautiously, according to the paper.

Because of this, it's impossible to determine whether police are racially biased based on the "veil of darkness" method alone and additional methods must be employed, according to the paper.

Rosenfeld, the University of Missouri-St. Louis professor and criminologist, said although Milyo's data analysis in the first part of the report is basically sound, he doesn't have Milyo's confidence in the "veil of darkness."

Rosenfeld said the method is not foolproof. He pointed out that the method depends on how close the officer is to the driver. If police are pulled up alongside a car at a stoplight, they would likely see the race of the driver.

Rachel Taylor with Race Matters, Friends also raised questions about the theory.

"The veil of darkness is completely dependent on observing skin color," Taylor said. "Racial profiling is not just seeing someone's skin color."

To illustrate, she told the story of a friend who was pulled over at night in a predominately black neighborhood. After the officer reached the window and saw that her friend was white, the officer expressed surprise and let her go.

Taylor said this is also racial profiling: Based on driving behavior and neighborhood, the officer had expected the person to be black without seeing them.

Taylor said the "veil of darkness" method would be more applicable to highway stops where there is a larger cross-section of the population and that it should not be applied to Columbia.

In an email, Steven Sapp, the city's director of community relations, said the police department plans on looking into Milyo's report and seeing if there would be any "useful conclusions" they can draw from the data involving the "veil of darkness" method.

AG's report long misinterpreted

Lorie Fridell is a national expert on bias-free policing and has written a book on the subject. She Skyped into an August city council work session and gave her thoughts on the police department's revised bias-free policy.

Although she said she hadn't had time to read Milyo's report, in an interview last month she said the Attorney General's report is often misinterpreted.

"The biggest mistake we make is assuming disparity means there is racial bias in the police department," she said. Disparities can be produced by a number of factors, one of which is bias, but bias is not always the determinant for a disparity.

Rosenfeld agrees. No quantitative data can show racial profiling, he said, and there is no way to know what is in the mind of an individual officer when a stop is made.

He also finds fault with the way the disparity index is calculated. It includes the total number of stops compared to the population of a certain race in the area. However, the index does not exclude stops of drivers who are not residents of that jurisdiction. Because of this, Rosenfeld said, the disparity could be skewed.

Milyo's report promises to keep the debate alive over traffic stops in Columbia.

Burton, who was at last month's work session, said he was pleased to see data supporting his claim that his officers aren't racially biased. Meanwhile, Race Matters, Friends wants to steer the conversation away from individual bias and towards systemic racism.

"We want systemic racism to be addressed — he is moving the conversation to individual thoughts and feelings," Taylor said. She described Milyo's report as a distraction. He and the city are "ignoring the impact of systemic racism," she said.

Systemic racism is the result of collective policies, Taylor said, versus implicit bias which is focused primarily on the thoughts of individuals. Taylor hopes the department will change policies based on systemic racism, not implicit bias.

"We want (officers) to change their actions and be honest with themselves about the result of their actions," she said.