



RACIAL DISCRIMINATION AT THE CROSSWALK

Researchers examine how the experience of minority pedestrians may be affected by subtle racial biases and discriminatory behavior on the part of drivers.

The Issue

A look at pedestrian fatality rates in the United States reveals that minorities are disproportionately represented. The Centers for Disease Control and Prevention reported in 2013 that in the first decade of this century, the fatality rates for black and Hispanic men were twice as high as they were for white men. Multi-disciplinary research has shown that racially biased behaviors are evident in many parts of society. Minorities experience differential outcomes in education, employment, health care, and criminal sentencing. Could racially biased treatment exist in transportation as well?

Implicit racial biases are subtle beliefs that individuals may hold beneath the level of conscious awareness, but that can lead to discriminatory behavior. These hidden biases are particularly influential in fast-paced situations. Driving behaviors are likely influenced by drivers' implicit attitudes, as driving and stopping decisions are often fast-paced and full of distractions.

In a pilot study funded by NITC, Kimberly Barsamian Kahn and Tara Goddard of Portland State University, with Arlie Adkins of the University of Arizona, posed the research question, "Do drivers behave differently toward pedestrians based on race?" The investigators conducted a controlled field experiment to measure differences in drivers' behavior toward black and white pedestrians.

The Research

Crosswalk studies similar to this one have seen changes in driver yielding behavior based on social factors of the pedestrian. Drivers have been shown to yield differently based on the relative ages of the driver and the

THE ISSUE

Research explores whether drivers' yielding behavior toward pedestrians at the crosswalk differs based on the pedestrian's race.

THE RESEARCH

Three black and three white participants were recruited to serve as pedestrians. In a controlled field experiment, researchers recorded:

- Whether the first car to approach yielded;
- How many cars passed before a driver yielded;
- The number of seconds that elapsed before the pedestrian was able to safely cross.

IMPLICATIONS

The results showed a distinct racial disparity in drivers' yielding behavior.

Photo: Pedestrian crosswalk in downtown Portland, Oregon

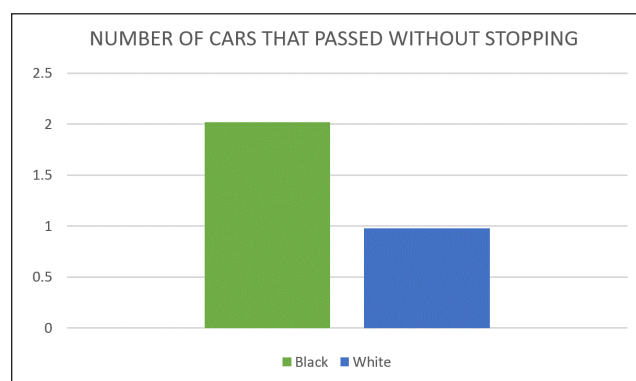
pedestrian, the social class of the driver, or the apparent physical disability of the pedestrian (one study equipped pedestrians with canes, and drivers responded with quicker yielding and shorter wait times). Kahn, Goddard and Adkins' experiment tested whether racial group membership might be an influencing factor as well. The study focused on the moment when pedestrians are most vulnerable: street crossings. Three black and three white participants were selected to be crosswalk pedestrians for the study. Researchers collected data on 90 individual pedestrian trials. They chose an unsignalized, marked crosswalk, located mid-block so that drivers' yielding wouldn't be influenced by cross traffic or turning. It was on a two-lane, one-way street in downtown Portland, Oregon.

All six of the pedestrian volunteers were men in their 20s, and were matched based on their height and build. They wore an identical outfit; a long-sleeved gray shirt and khaki pants to convey a neutral look, without any obvious social or socioeconomic characteristics. Each research participant did 15 crossing trials. These trials resulted in 173 driver subjects.

In each trial, three trained observers stood out of sight of oncoming cars and recorded whether the first car to approach yielded, how many cars passed before a driver yielded, and the number of seconds that elapsed before the pedestrian was able to safely cross. This experiment tested the frequency with which drivers extended the voluntary courtesy of yielding to pedestrians who were clearly waiting to cross.

Implications

As hypothesized, the results differed based on pedestrian race. Black pedestrians were passed by twice as many cars, waited 32 percent longer than white pedestrians, and were more than twice as likely as white pedestrians



Average number of cars that passed without stopping at mid-block crosswalk

This graph shows the average number of cars that passed by without yielding to a waiting pedestrian. An average of 2.02 drivers passed black pedestrians without stopping; more than twice the number who passed white pedestrians without stopping.

to have to wait

for two or more cars. To expand upon this pilot study, future research goals include collecting more data on driver demographics and examining different types of crosswalks.

On top of more imminent safety concerns, unpleasant pedestrian experiences could discourage members of minority groups from using active travel modes. To help shield minority pedestrians from negative crossing experiences that delay their trips, planners may be able to devise urban spaces that counteract this effect, for example by constructing more crossings where yielding is mandatory and not left to the driver's discretion.

PROJECT INFORMATION

TITLE: Exploring Racial Bias in Drivers' Behavior at Pedestrian Crossings

LEAD INVESTIGATOR:
Kimberly Barsamian Kahn,
Ph.D., Portland State
University

PROJECT NUMBER:
2015-733

CONTACT:
Justin Carinci, 503-725-2843
carinci@pdx.edu

MORE INFORMATION
<http://nitc.trec.pdx.edu/research/project/733>