A Johns Hopkins study out Wednesday found that liquor stores in Baltimore have a stronger association with violent crimes than establishments where alcohol is bought and consumed on-site.

Researchers say that since low-income neighborhoods have greater access to liquor stores, the impact is higher in those neighborhoods. The report was published Wednesday in the journal Alcoholism: Clinical and Experimental Research.

In general, researchers found, every 10 percent increase in access to any establishment that sells alcohol is associated with a 4.2 percent uptick in nearby violent crime. A 10 percent increase in access specifically to liquor stores or other off-premises establishments, however, was associated with a 37 percent increase in nearby violent crime.

“While previous research found a clear association between alcohol outlet density and violent crime, there was debate about whether on- or off-premise outlets are more closely linked to violent crime,” Daniel Webster, the Bloomberg professor of American
health in the Bloomberg School of Public Health’s Department of Health Policy and Management, said in a statement. “We used advanced methods to measure access to alcohol outlets more precisely and found that outlets that allow for off-site drinking, such as liquor stores and taverns, had a greater association with violent crimes than outlets that permit only on-site drinking, such as bars and restaurants.”

A 2016 zoning overhaul aimed to restrain liquor stores, bail bondsmen, check-cashing businesses and sororities and fraternities, forcing them to get City Council approval before opening in Baltimore.

“A comprehensive approach to reducing violent crime in Baltimore must include policies that restrict or regulate alcohol outlets, particularly those that sell alcohol for off-site consumption,” Webster said. “Reducing the number of off-site alcohol outlets in Baltimore has the potential to lead to fewer homicides and aggravated assaults.”

The study looked at 1,204 alcohol outlets and exposure to violent crimes from 2012 to 2016 after taken into account factors like drug arrests and income levels.

The study tied greater access to off-premises liquor stores and taverns that sell liquor for off-premises consumption to increased levels of homicide, aggravated assault and robbery. They linked on-premise outlets like bars and restaurants only to an uptick in sexual assaults.

The authors suggest that some outlets are more associated with assaults or homicides, owing perhaps to how well they can handle their customers. At liquor stores and beer and wine stores, employees are often isolated from patrons or behind plexiglass. They can’t control whether people drink the beverages in public. At bars and restaurants, staff interact more closely, monitoring IDs, bouncing potential offenders and cutting off sales.