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Parks and shootings in Philadelphia from 2005-2015: A proximity analysis

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Parks and shootings in Philadelphia from 2005-2015: A proximity analysis

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Introduction: Urban green space exposure has been negatively correlated with mortality, and positively correlated with mood, attention, and physical activity; however, the relationship between urban green space, violence, and crime is still a topic of contention. The Philadelphia Horticultural Society found significant reductions in gun assaults and gun robberies in greened lots vs. ungreened lots. It is unclear whether or not there is a protective effect of parks overall for shootings in Philadelphia.

Methods: In order to explore the relationship between green space and shootings in Philadelphia, we compiled data from 2005-2015 police reports to map out where shootings and drug related crimes were occurring using ArcGIS. We then conducted proximity analyses between shootings, poverty level, and drug related crimes within 600 feet of a park and a 600-1200 feet of a park.

Results: Using Philadelphia neighborhoods as the unit of analysis, we found the ratio of shootings within 600 ft. of a park and ratio of shootings in the neighborhood per 100,000 people was positively correlated when controlling for drug related crimes and poverty ($t=2.26$, $p=.059$). Similarly, with a buffer range of 600-1200 ft. of a park, there was a positive correlation between shootings near the park and overall shootings in the neighborhood ($t=5.70$, $p=.001$).

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Conclusion: Though our proximity analysis, which controlled for poverty levels and drug crimes, we found that parks are not protective for shootings in Philadelphia. However, future studies will need to determine whether or not there is a difference between greened parks and ungreened lots.