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Document Title: A Place-Based Approach To Address Youth-Police Officer Interactions In Crime Hot Spots: A Randomized Controlled Trial

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Document Number: 308702

Date Received: March 2024

Award Number: 2018-JX-FX-0093

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FINAL SUMMARY OVERVIEW

A place-based approach to address youth-police officer interactions in crime hot spots: A Randomized Controlled Trial

SEPTEMBER 2023

Presented by:

NORC at the University of
Chicago

Report submitted to:

The National Institute of Justice
Grant #2018-JX-FX-0093

Project Period: 10/01/2018 to 9/30/2023

Award Amount: \$999,396

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Acknowledgements:

Points of views in this document are those of the authors and do not necessarily represent the official position or policies of the National Institute of Justice or any other organization. We thank our Project Officer Jennifer Grotpeter for her encouragement and support. We would like to express our sincere gratitude to the law enforcement agencies and youth and young adults who participated in this research. We extend our gratitude to Rutgers University and Clarus Research for their invaluable contributions to this research and to the NORC research team, Jackie Sheridan-Johnson, Shalima Zalsha, Diana Park, and Victoria Hallman who supported this project.

Conflict of Interest: The authors have no conflicts of interest to disclose.

Financial Disclosure: The authors have no financial relationships relevant to this study to disclose.

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Title: A place-based approach to address youth-police officer interactions in crime hot spots: A Randomized Controlled Trial

Authors: Taylor, B.G., Liu, W., Sheridan-Johnson, J., Zalsha, S., and Park, D.

BACKGROUND

Problem-Oriented Policing (POP) strategies are a place-based approach to policing, using the Scanning, Analysis, Response, and Assessment (SARA) model to find place-based solutions to problems and ultimately reduce crime. Instead of reactive incident-driven policing, POP strategies ask law enforcement officers to analyze and address the underlying problems of crime in the community and take preventative measures to reduce crime. While POP strategies have been found to successfully reduce crime and disorders,^{1,2} the impact of POP on the relationship between law enforcement officers (LEOs) and the community is less clear³. Further, most of the current literature examining the impact of POP focuses on adults. Youths between 16 and 24 years are more likely to experience contact with the police than other age groups, with around 38.1% of this age group experiencing face-to-face contact with law enforcement in 2008.⁴ It has been documented that traditional policing approaches with adults do not have strong data on their efficacy in reducing youth crimes.⁵⁻⁸ However, little has been done to prepare and train LEOs to interact with youth more effectively.⁹ Given the importance of positive LEO-police interactions and youth attitudes towards police in protecting youth from delinquent behavior,¹⁰ it is essential to test the impact of innovative policing interventions incorporating youth development concepts on crime and police-youth relationship and interactions.

With funding from the National Institute of Justice (NIJ), we designed and implemented a randomized controlled trial (RCT) to examine the impact of two interventions on crime and related community and youth outcomes compared to a control condition, defined as standard patrol, in three mid-Atlantic cities within the same county. Both interventions trained and encouraged LEOs to apply a POP approach to address crime problems. The first intervention focused solely on POP (*POP Only*)

and the second intervention incorporated training for law enforcement agencies on POP and community engagement strategies, youth development, and strategies for positive police-youth interactions (*POP for Youth*).

The overall purpose of the research is to test whether place-based proactive POP strategies combined with training for patrol LEOs in youth interactions and crime prevention can be implemented to achieve crime reduction and broader community/youth and officer benefits. This study had three main goals: (1) to examine the effectiveness of *POP for Youth* in reducing property and violent crime; (2) to assess the effect of the intervention on youth perceptions of police legitimacy, experience of LEO-youth interactions, and feelings of safety; (3) to (qualitatively) assess the impact on LEO attitudes, knowledge and experience of interacting with youth.

A total of 128 hot spots were identified across the three cities. Between July 2021 and November 2022, one-third of the areas received POP services, involving positive respectful interactions with community members, systematic investigation, hot spot tracking to develop problem-solving interventions tailored to each hot spot (*POP Only*). Another third received *POP for Youth* services, in which LEOs applied youth development and engagement strategies additional to standard POP services. Such youth-centered strategies encourage LEOs to differentiate between low and high-risk youth delinquency to assess their solutions, including giving warnings and referring low-risk youths to community-based services and processing arrest of high-risk youths through proper judicial procedures to decrease police-initiated contact (*POP for Youth*). The last third received standard patrol services and no interventions (control condition). Outcome evaluation data collection included multiple data sources. Quantitative data collection included intervention activity tracking data, official crime data, and community survey data. Qualitative data collection included interviews and focus groups with police command staff, LEOs and community members.

The central research questions were:

- **[Quan RQ1]** What is the impact of *POP Only* and *POP for Youth* interventions on violent and property crime counts in crime hot spots?
- **[Quan RQ2]** What is the impact of *POP Only* and *POP for Youth* on youth's experience of LEO-youth interactions, their perception of safety, and policy legitimacy in targeted hot spots?
- **[Qual RQ3]** What is the impact of *POP for Youth* on LEOs' attitudes, knowledge, and skills, their experience of LEO-youth interactions, and their perception of policy safety?

PROJECT DESIGN AND METHODS

The study was conducted in three mid-Atlantic cities within the same county. The study sites are referenced as Sites A, B, and C to preserve their anonymity. These three cities have similar demographic characteristics, with populations ranging from 25,000 to 75,000 people and city square mileage between 6.49 and 68.99 square miles.

Hotspot Randomization

A total of 128 hot spots were identified across the three research areas, including 56 hot spots in Site A (the largest of the three sites), 38 hot spots in Site B, and 34 hot spots in Site C. Using ArcGIS software, crime hot spots were determined by geocoding areas with the highest numbers of Uniform Crime Reporting (UCR) Part I crimes between 2017 and 2019. Randomization was completed using a block randomization design¹¹ within each site to make the treatment and control groups as comparable as possible. Four levels of crime blocks – low, medium, high, and very high – were created for randomization. Crime blocks were based on the distribution of crime in each city and created separately for each city based on quartiles, adjusted to allow for a close to even number of hot spots within each crime block. Crime blocks for Site A were defined as less than 28 total crimes in the low block (n=14 hot spots); 28-36 crimes in the medium block (n=14); 37-55 crimes in the high block (n=15); and 56 or greater crimes in the very high block (n=13). Crime blocks for Site B were defined as less than 35 crimes in the low block (n=9); 35-45 crimes in the medium block (n=9); 46-98 crimes in the high block

(n=11); and 99 or greater crimes in the very high block (n=9). Crime blocks for Site C were defined as less than 35 crimes in the low block (n=9); 35-46 crimes in the medium block (n=8); 46-60 crimes in the high block (n=9); and 61 or greater crimes in the very high block (n=8). Hot spots were then randomly assigned to one of the three project conditions – *POP for Youth*, *POP Only*, and the control condition of standard patrol – within each crime block in each site using SPSS-generated random numbers (see Table 1 for the number of hot spots assigned to each condition in each site).

Table 1. The number of hot spots assigned to each condition in three sites.

	Interventions (# of Hot Spots)		
	<i>POP for Youth</i>	<i>POP Only</i>	Control
Site A	19	19	18
Site B	13	12	13
Site C	12	11	11
	44	42	42

After randomization, the treatment and control groups were compared for total crime count and area square miles to ensure pre-treatment comparability across the research sites. There were no significant differences between the treatment or control group on total, property, or violent crime counts, nor hot spot size.

Intervention Activities

The intervention period varied by research area, with a total duration of 13 months in Site A (November 2021-November 2022) and Site C (October 2021-November 2022), and 16 months in Site B (July 2021-October 2022). Before the intervention, in May and June of 2021, the research team conducted training for each agency for officers who would be participating in the intervention. The training included POP, community engagement, youth development, officer-youth interactions, and operational details for the project. We conducted a total of eight half-day in-person trainings. An experienced trainers and former LEOs from the Rutgers University team were present onsite and the

NORC team presented via Zoom. Prior to the training, we sent each agency their booklets of hot spot maps (only intervention hot spots were included in the maps) to be distributed to officers for reference as they patrol and conduct intervention activities in the treatment hot spots. The control group hot spots were not shared with the LEOs implementing the treatment. Instead, they were instructed to focus all intervention activities in treatment hot spots. Agencies programmed codes to track intervention activities using their CAD systems, and officers logged these codes as they conduct intervention activities.

All patrol officers at the agencies who participated in the program received the POP for Youth training due to the agency patrol structure and coverage areas, but officers were required to use different strategies in the *POP Only* and *POP for Youth* hot spots. Patrol officers assigned to treatment hot spots were instructed to visit these hot spots at least once a day for the first three months of the intervention and then at least four times per week for the remaining duration of the intervention. They were instructed to implement POP projects (in *POP Only* hot spots) and POP projects with a specific youth focus (in *POP for Youth* hot spots) based on needs identified in each hot spot using the SARA model. Officers were required to focus on POP-related activities in the *POP Only* hot spots and focus on proactive youth engagement in the *POP for Youth* hot spots. Officers were required to complete at least two POP projects per hot spot using the SARA model. A key distinction between the two treatment assignments is that POP projects within POP Only hot spots were intended to focus on problem solving projects involving the community at large, such as working with business owners/managers to come up strategies to prevent theft. Projects within the POP for Youth hot spots were intended to proactively engage youth, such as having a Police Athletic League (PAL) league event. In practice, asking officers to not provide POP in the control hotspots was not a problem, as the officers were kept fully busy implementing POP in the designated treatment areas and did not have the time to implement POP in the control areas.

DATA COLLECTION

Intervention Data Collection

UCR Part I crime data and intervention data were collected from each site monthly. To assess implementation fidelity, we collected counts of project-specific CAD calls by hotspot each month. To note, implementation of the intervention was low across all three project sites. Agencies were instructed to visit each hot spot once per day for the first three months and at least four to six times per week thereafter. This translates to a minimum average of 20.6 visits per month for each hot spot. In reality, hot spots received an average of 1.3 to 7.4 visits per month, well below the intended dosage. In addition, most CAD calls for the project were for directed patrol, indicating low levels of problem solving or community engagement. The level of implementation is similar between *POP for Youth* and *POP Only* hot spots. Officers implemented a limited number of POP projects across the three sites. The types of POP projects were not distinguishable between *POP for Youth* and *POP Only* hot spots. This includes four POP projects in Site A (two youth-related in *POP for Youth* hot spots and two non-youth-related in *POP Only* hot spots), 22 POP projects in Site B (one youth-related and 21 non-youth-related, mostly in *POP Only* hot spots), and three POP projects in Site C (one youth-related and two non-youth-related with hot spot type unknown). In conclusion, the nature and the levels of intervention reported in *POP for Youth* and *POP Only* hot spots were similar, and there was not a clear distinction between the two treatment groups as planned. Given that the implementation of the two treatment groups were indistinguishable from one another, we cannot reasonably distinguish and compare the effect of *POP Only* and *POP for Youth*. As such, we combined the two treatment groups. Thus, the analyses will compare any treatment to standard patrol (control), and the intervention effect should be interpreted as the effect of POP in general.

The issue of low implementation is not unique to this study. The difficulty of implementing POP work has been documented in numerous studies.¹²⁻¹⁴ We recommend additional studies on the implementation of POP. As part of this project, we conducted interviews and focus groups with

command staff and officer participating in the intervention (see Qualitative Data Collection section for details). Recommendations for POP implementation based on qualitative findings suggest that identifying agency champions with authority to enforce implementation, incentivizing and recognizing officers' interest in the project, and leveraging community support are factors that may boost implementation.

Community Survey Data Collection

A pre-intervention and a post-intervention survey were conducted for youth community members (12-24 years old) living in the hot spots to measure the effects of the intervention on youth perceptions of police. The baseline community survey (Wave 1) was conducted between May 2021 and February 2022, using a US Postal Service (USPS) delivery sequence file (DSF) as the sampling frame. Respondents from sampled households were eligible to complete the survey if they were between the ages of 12-24, spoke English (only a very small proportion of the population in the study communities did not speak at least enough English to respond to survey questions from an interviewer), and had resided in the same household for the past six months. The Wave 1 survey overlapped with the COVID-19 pandemic and was conducted online. To ensure sufficient completed cases, the research team sampled all 11,918 households that resided within the hot spots across the three cities. In May 2021, we mailed out postcards to all sampled households with a unique PIN and both a QR code and URL they could use to access the survey online. We mailed out three additional rounds of postcards in July 2021, November 2021, and January 2022, respectively. We also conducted social media advertisements between September and October 2021, targeting young adults (aged 18 through 24) and parents and caregivers of youth (aged 12 to 17) with ways to verify that they resided in a hot spot.

The pre-intervention data collection ended on February 14, 2022, with 212 completed community surveys and a response rate of 2.0%. We experienced challenges in conducting the W1 community surveys, especially due to the COVID-19 pandemic (consistent with other studies conducted post-pandemic¹⁵). Due to COVID-19 social restrictions¹⁵, the mode and outreach of the W1 community

surveys were only available through virtual methods, making it difficult to engage with community members. The only outreach methods available were through postcard invitations and social media ads, and with the age eligibility requirement (12-24 years) and the relatively small population size of the cities, this led to a limited pool of eligible participants and a low response rate.

To assess changes in the intervention, we conducted a post-intervention survey (Wave 2). The survey asked near identical measures to be able to assess change over time, and also included measures of observed police proactive activities to assess the level of awareness of the intervention in the community. A follow-up survey (Wave 2) was conducted starting in September 2022. As the many COVID-19 pandemic precautions lifted around this time, we conducted both online and in-person data collection. A random sample of 3,000 households was drawn stratified by hot spot size and proportional to the percent of residential addresses. We also sampled with certainty the 212 households that responded to the Wave 1 survey, for an initial Wave 2 sample of 3,216 households. Respondents from sampled households were eligible to complete the Wave 2 survey if they were between the ages of 12-24, spoke English, and had resided in the same household for the past 12 months. Prior to in-person data collection, we developed a manual and trained four field interviewers (FIs). We also printed door hangers with information on how to take the survey online (if the respondent chose to) and the FI's contact information (if the respondent preferred in-person survey) for FIs to leave when residents were not home. In September 2022, we mailed out a round of postcards to all sampled households asking residents aged 12 through 24 to participate in the survey online. We mailed out another round of postcards in October 2022. The in-person interviews began in November 2022.

In March 2023, we expanded our sample from 3,216 households to all households in the hot spots across the three cities, totaling 11,918 households (including the W1 respondents). We sent out another round of postcards in March 2023, inviting all sampled households to complete the survey. We also added two additional FIs (working total of three) and added phone and email outreach for Wave 1

survey respondents (provided at the time of the Wave 1 survey). The post-intervention data collection ended in May 2023, with 243 completed community surveys and an overall response rate of 2.2%.

Due to unprecedented nationwide challenges in staffing as a downstream effect of the pandemic, we experienced challenges in hiring field interviewers in nearby locations to the study sites to be able to conduct in-person field interviews. Although we had a team of four FIs, three interviewers had to leave the project due at various points during data collection to personal circumstances. We also used an experienced traveling FI who conducted field interviews in the three cities over the course of one week. NORC field interviewers experienced several challenges that led to low number of completes. For one, many respondents did not answer the door for many of the households visited. This might have been a by-product of COVID-19 precautions, or may reflect sustained changes in society post-pandemic, such as people being more reluctant to engage with people at the door. Additionally, our target population of youth ages 12-24 reduced the number of eligible people. That is, the field interviewers screened out many households that they were able to make contact with.

Qualitative Data Collection

Clarus Research collected three waves (pre-, midpoint, and post-intervention) of qualitative data with command staff and police officers who were involved in the interventions as well as youth community members in the three cities. The pre-intervention data was collected between May to November 2021, midpoint between April to July 2022, and post-intervention between November 2022 and February 2023. In total, 25 interviews and focus groups were conducted, including seven interviews with agency command staff; five interviews with sergeants responsible for overseeing the POP project in their respective jurisdictions; thirteen focus groups with law enforcement officers implementing the intervention; and four interviews and one focus group with community members (pre-intervention only).

Measures

Intervention Activities. As discussed, agencies designed project-specific CAD calls to track project-related visits in the hot spots, eliminating the need for hard copy daily logs. The average number of visits per month is 1.3 visits for Site A, 7.4 visits for Site B, and 4.7 visits for Site C. We determined the treatment level— high or low — based on the average monthly number of visits and the percentage of high treatment months in the following steps. First, if a hot spot received more than the average number of visits during the intervention period in that month, then the hot spot was considered to have a high treatment level in that given month. Second, if a hot spot had a percentage of high treatment months above the median percentage of high treatment months in a given site, then it was considered a hot spot with high-level treatment. We calculated this by finding the percentage of months in which a hot spot received a high treatment dosage. Then, we calculated a median for the percentage of months receiving high treatment dosages for all hot spots in each city¹. Lastly, we compared the high treatment percentage for each hot spot to the median percentage, determining whether the hot spot was considered a high treatment level hot spot.

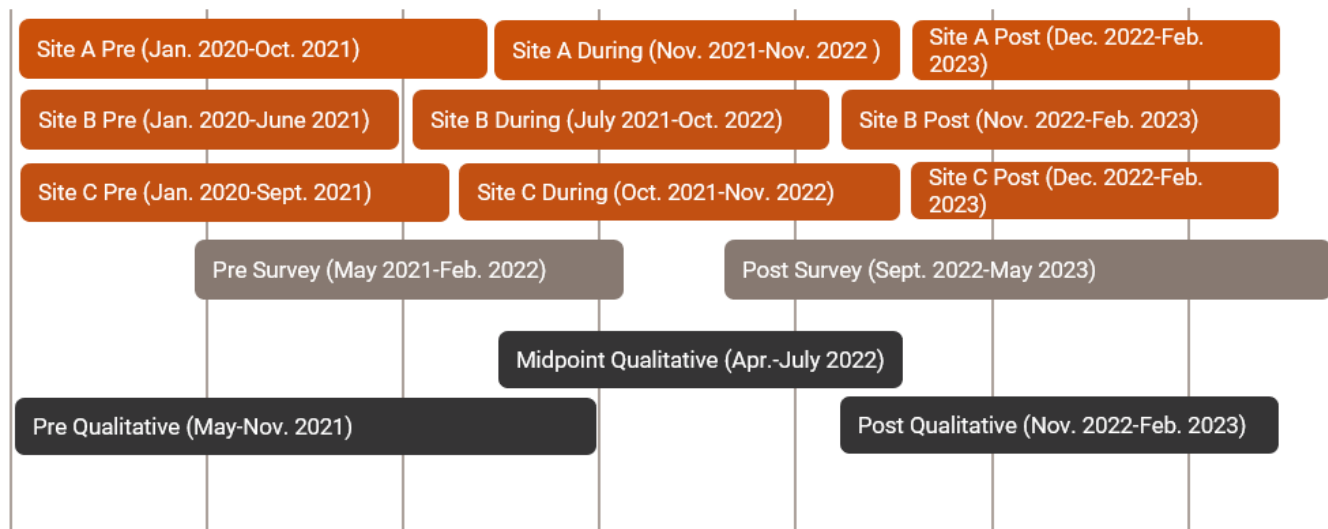
Time periods. We included the time period when the crime occurred (pre-, during, or post-intervention). Site A's pre-, during, and post-intervention periods were considered as January 2020-October 2021, November 2021-November 2022, and December 2022-February 2023, respectively. Site B's pre-, during, and post-intervention periods were considered as January 2020-June 2021, July 2021-October 2022, and November 2022-February 2023, respectively. Site C's pre-, during, and post-intervention periods were considered as January 2020-September 2021, October 2021-November

¹ The median for the percentage of months receiving a high treatment dosages was chosen here so that the cut-off point for determining a low or high treatment hot spot was not affected by extreme values and that the number of hot spots classified as low or high treatment were more balanced.

2022, and December 2022-February 2023, respectively. Figure 1 presents the intervention timeline for each site along with timelines for other data collection activities.

Hot spot characteristics and season effects. Hotspot characteristics included: *group assignment* (treatment or control; high treatment vs low treatment vs control), *crime block* (low, medium, high, or very high), *hot spot area square miles*, and *number of households* in each hot spot. In addition, a

Figure 1. Data Collection and Intervention Timeline



categorical variable was created to account for the seasonal effect of crime: Winter (December, January, and February), Spring (March, April, and May), Summer (June, July, and August), and Fall (September, October, and November).¹⁶

Crime. We collected monthly UCR data on Part I property and violent crimes in each hot spot. Property crime was calculated as the total count of all Part I property crimes by month in the periods before, during, and after the intervention. Part I property crimes included burglary, arson, shoplifting, and theft. Violent crime was calculated as the total count of all Part I violent crimes by month in the periods before, during, and after the intervention. Part I violent crimes included homicide, aggravated assault, sexual assault, and robbery. On average, hot spots in Site A experienced 0.88 property crimes and 0.13 violent crimes per month. On average, hot spots in Site B experienced 0.66 property crimes

and 0.68 violent crimes per month. On average, hot spots in Site C experienced 1.11 property crimes and 0.30 violent crimes per month.

Community Survey Measures. Measures included in community survey instrument draw on our theoretical framework and prior criminology research. The measures in the community survey include personal demographics, police encounters, perceptions of police, fear of crime, criminal victimization, delinquency, gangs, child exposure to violence, and community measures such as collective efficacy and crime and disorder in the neighborhood. The Wave 1 survey also included measures of COVID-19 impact due to the timing of fielding still at the height of the pandemic.

Respondent Demographic variables collected information on respondents' age, years of residency in their current address, if the respondent owned or rented their residence, gender, race, Hispanic origin, household income, education status and level, employment status, and current living situation.

Police Encounter asked respondents if they interacted with police for various reasons, including reporting a crime witnessed or committed against them, voluntarily initiating contact with police, or interacting through the initiation from the police. For each type of interaction, respondents were asked about the details of the interaction and their overall feelings or satisfaction with the police during the encounter.

Perception of Police asked respondents about their perceptions of police legitimacy¹⁷, police performance, procedural justice,^{17,18} and collaboration with police. Policy legitimacy, policy performance, and procedural justice categories were measured on a 5-point scale from "Strongly Disagree" to "Strongly Agree." The collaboration with police measures asked the likelihood of respondents calling the police based on different scenarios including to report a crime, to report suspicious activity, or provide information for an investigation, using a 5-point scale of "Very unlikely" to "Very likely." For the procedural justice measure, we asked a question specific to police-youth interactions, "The police are respectful of youth."

Police Presence asked respondents about the frequency of police activities^{3,18} such as driving through the area, on foot patrol, searching for someone, or arresting someone, using a 5-point scale from “Never” to “Daily” within six months for the Wave 1 and past 12 months for the Wave 2 survey. In the Wave 2 survey, we asked respondents about changes in police-youth interactions, specifically, about how often they saw “police chatting or having friendly conversations with youth.”

Collective Efficacy asked respondents about their community involvement and perception of community closeness. This measure includes questions on the closeness of the community (using a 5-point scale of Strongly Disagree to Strongly Agree), the likelihood of community members intervening in a crime (using a 5-point scale of Very Unlikely to Very likely)¹⁷⁻¹⁹, and involvement of the respondent or their household member in activities in the community (using a 5-point scale of Never to More than once a week). The question regarding involvement in the community asked respondents to rate within six months for the Wave 1 and past 12 months for the Wave 2 survey.

Crime and Disorder in Neighborhood asked respondents to rate crimes or problems occurring within the two or three blocks surrounding their residence on a 5-point scale of "Big problem" to "Not a problem." Respondents were also asked to rate their perception of specific crimes in their neighborhood, including having items stolen from personal property by force or threat, and being attacked or harassed. These questions used a 5-point scale rating of “Very unlikely” to “Very likely.”^{3,17}

Fear of Crime asked respondents to rate their overall sense of safety within the two or three blocks surrounding their residence on a 5-point scale of “Strongly Disagree” to “Strongly Agree.” Respondents were then asked about their sense of safety regarding specific scenarios within their neighborhoods (using a 5-point scale of Very unsafe to Very safe). Such scenarios include leaving their house unlocked, walking alone during the day or night, and staying inside their house alone.

Criminal Victimization asked respondents how often they experienced specific types of crime within the two or three blocks surrounding their residence. Such crimes include personal items being stolen or personal property being broken into or stolen. These questions used a 5-point scale of “Never”

to “5+ times”²⁰ within six months for the Wave 1 and past 12 months for the Wave 2 survey. This measure also asked respondents if they have been a victim of cyber or online harassment using a 3-point scale of “Never” to “More than once.”

COVID-19 Impact was a measure used only in the Wave 1 survey. Measures included how the COVID-19 pandemic affected the school, professional, and personal lives of the respondents or a member of their household. Respondents were also asked about the effect of COVID-19 on crime rates in the neighborhood.

DATA ANALYSIS

Data for the community surveys were cleaned and recoded using SPSS 23.0 statistical software. We examined the distribution of data by running frequencies, measures of central tendency, and measures of dispersion with all the study variables. Analyses were conducted in R, and SPSS. Bivariate associations and multi-collinearity were also investigated with cross-tabulations, comparison of means, and correlation matrices.

An analysis of the effects of intervention on crime was conducted separately for the three cities in R statistical software (version 4.2.1). We examined the hot spot characteristics and descriptive statistics of the monthly UCR Part 1 property and violent crimes for the pre-, during-, and post-intervention. When specifying the variance components, we fit multivariable hierarchical Poisson or negative binomial regression models to the count of property and violent crimes in each hotspot, accounting for temporal and spatial correlation. A total of 12 models were used, including crime data in the three cities, two types of crime (violent and property), and two types of models based on treatment categorization (two- or three-level treatment). Analyses of the community survey data were conducted in SPSS for descriptive statistics and R for fitting multiple linear regression models of the mean scales of outcomes of interest, controlling for demographic characteristics, treatment group, project site, observed police presence and engagement with police, as well as other relevant measures of community-police sentiment.

Qualitative data was transcribed and coded using the online qualitative and mixed-methods software Dedoose. Two analysts reviewed the same interview transcripts and reviewed coding to ensure consistency across coders. After the quality review was completed, code dictionary was developed. Approximately one third of transcripts were selected for two-person coding to ensure consistency and alignment.

FINDINGS

The analysis of the intervention's effect on property and violent crime and community survey analyses and manuscripts are under preparation. Further detail is available from the investigators.

Paper 1: Impact of the Intervention on Crime

Taylor, B.G.; Liu, W.; Zalsha, Z.; & Sheridan-Johnson, J. "The Impact of a Youth-Focused Community Policing Initiative on Crime: Findings from a Randomized Controlled Trial in Three Cities." Under review, *Journal of Experimental Criminology*.

We evaluated the impact of the *POP Only* and *POP for Youth* interventions on property and violent crime in the three intervention sites, comparing (1) treatment vs control hot spots; (2) low-level treatment vs. high-level treatment vs. control hot spots, in terms of their property/violent crime counts separately for the three time periods, i.e., pre-, during- and post-intervention. We then compare the (high/low-level) treatment vs. control difference in each of the three time periods. We did not find any significant intervention effect on violent crimes in any of the three study sites. It is important to note that crime levels in the three sites were low overall, and it may be difficult to make a meaningful impact on crime levels with the low levels of implementation. We also observed some potential negative effects of low-level treatment on property crimes in Site A and C. This finding may be explained by the following reasons. First, it is important to note that the low and high treatment hot spots were not randomized. The crime level in the low treatment hot spots before the intervention was lower than both the control and high treatment hot spots, so officers may have given less attention to

the low treatment hot spots because of their lower crime levels. Hence, such results may be simply driven by the natural deviations between the low-treatment hot spots and the control hot spots.

Additionally, the low implementation may have been enough to alert people there is a problem, but not enough was done to solve the problems identified. More detailed discussion can be found in the manuscript.

Property crimes

In Site A, low-level treatment hot spots had higher property crime counts than the control condition in all three time periods. The low-level treatment vs. control hot spots difference was 47% higher in the during-intervention period when compared to the pre-intervention period. This indicates that low level treatment might have had a negative effect in increasing property crime in Site A compared to the control condition. This effect was not observed for the high-level treatment hot spots. In Site B, crime counts were comparable overall among hot spots in the low and high treatment groups, relative to the control group in all three time periods.

In Site C, treatment hot spots had a significantly lower property crime counts, by 45%, during the intervention period compared to those in the control group. However, the treatment vs. control difference between the pre-intervention period and that in the during-intervention periods are comparable. This indicates that the treatment vs. control difference observed in the during-intervention period is merely carried over from the pre-intervention periods, and, thus, is not evidence of an intervention effect. While the treatment hot spots had lower property crime than the control hot spots in the pre- and during- intervention periods, property crime increased to a comparable level with the control hot spots in the post-intervention period. The increase in crime count in the post-intervention period from during-intervention period is about three times as high for the treatment group relative to control.

However, when examining the three-level treatment effect, such negative effect is limited only to the low-level treatment hot spots. While the low-level treatment hot spots had lower property crime than the

control hot spots in the pre-intervention and during-intervention periods, they had comparable property crime with the control hot spots in the post-intervention period. The increase in crime count in the post-intervention period from the pre- and during-intervention periods is more than three times as high for the low-level treatment group relative to control. This indicates that the low-level treatment might have had a potential negative effect for property crime. Such negative effect was not observed for the high-level treatment hot spots.

Violent crime

We observed no difference between treatment and control hot spots in violent crime in Site A or Site B. In Site C, treatment hot spots had a significantly lower violent crime counts, by 60%, during the intervention period compared to those in the control group. However, when comparing the treatment vs. control difference between the pre-intervention period and the during-intervention periods, the differences was not significant. This indicates that the treatment vs. control difference observed in the during-intervention period is merely carried over from the pre-intervention periods, and, thus, is not evidence for the intervention effect.

Paper 2: Impact of the Intervention on Community Perceptions

Sheridan-Johnson, J.; Zalsha, S.; Liu, W.; Taylor, B.; & Park, D. The Impact of a Youth-Focused Community Policing Intervention on Community Perceptions in Crime Hot Spots. Planned submission to *Justice Quarterly* by 11/30/23.

We analyzed the baseline and post-intervention community survey data to assess the impact of the intervention on community perceptions of police, views about crime and disorder, and crime victimization. We had ten key outcomes of interest: crime victimization (property and violent), fear of crime, perceived crime and disorder, trust in police, police legitimacy, likelihood of reporting crime to the police, police capability, procedural justice, and police misconduct. Overall sentiment on community perceptions was neutral for both the baseline and post-intervention time points. We performed multiple imputation on the baseline and post-intervention data and ran logistic and linear regression models to

assess the impact of the intervention on the outcomes of interest, controlling for respondent characteristics of age, race, gender, education, and home ownership. We did not have sufficient evidence to suggest that the intervention had a significant impact on community perceptions. While the treatment assignment was not significant, we did find some significant differences in community perceptions by respondent demographics. Age was significantly associated with lower fear of crime in both the baseline and post-intervention models. In the post-intervention models, age was negatively associated with trust in police and perceived police legitimacy. Black or African American non-Hispanic residents reported significantly less trust in police than white respondents in the baseline survey models, however, this effect was not significant in the post-intervention models.

This study adds to the literature to further understand how POP and community policing approaches may affect residents. Few studies to date have assessed the impact of similar interventions using community surveys, but rather focus solely on impacts to crime using official police data. To note, observations of any change in policing activities were low among survey respondents, and this is consistent with the low dosage of the intervention activities. That said, the null findings suggest that while the intervention did not improve community perceptions of police or feelings of safety, the intervention did not negatively impact residents' views. Due to relatively low fidelity of implementation, further research is warranted to examine the effects of a high dosage POP interventions on community and youth perceptions of the police and the community.

Paper 3: Factors that Facilitate and Hinder Implementation

Ward, K., Yoo, J., Liu, W. Sheridan-Johnson, J. and Taylor, B. Factors that Facilitate and Hinder Implementation of a Problem Oriented Policing Intervention in Crime Hot Spots- a Qualitative Analysis. Under review, *Police Quarterly*.

The qualitative component of our study provided rich data on the factors that facilitated and hindered implementation of the *POP Only* and *POP for Youth* interventions tested in crime hot spots. The POP and hot spots literatures have more recently noted the need for implementation studies to

understand what and how implementation could be improved to ensure the greatest impact of these policing approaches. However, there are limited empirical studies on implementation of POP and/or hot spots policing, and there appears to be no published study to date that empirically identifies factors that facilitate or hinder implementation of such policing approaches. Implementation science is an established field with growing interests in public health and it has played a crucial role in leading to advances in increasing the health of Americans. Implementation research has not been conducted to the same degree in the field of law enforcement. This study is a step forward in that direction to encourage more implementation research in the field of policing and law enforcement.

This study is timely for contributing to the understanding of implementation drivers that help ensure proper installment of policing approaches for desired impact, sustainability, and spread. Our analysis of qualitative data resulted in an empirically derived socio-ecological model that identifies multiple factors within five levels: society, system, community, organization and individual that may impact implementation. Each level contains a set of factors that either facilitated or hindered implementation of the interventions that we tested. These factors include but are not limited to society's perceptions of police officers (officers perceived that police legitimacy was questioned by the community), the availability of justice systems' diversion policies, and community support of police agencies (many officers in our study perceived low community support for the police and a lack of willingness of to engage with police). In addition, leadership/supervisor support of POP and hot spots policing was not consistent in the agencies and might have related to low *POP Only/POP for Youth* implementation as well as constraints on organizational resources (e.g., the shortage of police officers led to a lack of time for proactive engagement practices). Finally, the individual characteristics of police officers was related to *POP Only/POP for Youth* implementation (e.g., officers' attitudes, knowledge, skills, and experiences related to low *POP Only/POP for Youth* implementation).

As described above, our model describes that these factors interact to ultimately influence patrol officers' motivation or lack of motivation to implement *POP Only* and *POP for Youth* in crime hot spots,

and that their motivation leads to varying degrees of implementation. As a result of this study, we offer implementation science-informed practical actions for police agencies to achieve stronger implementation of nontraditional policing practices. These actions can be tested to understand if they have significant and positive impact on crime and other outcomes.

IMPLICATIONS

Funded by the National Institute of Justice (NIJ), this study stands out as one of the few comprehensive experimental assessments integrating problem-oriented strategies with youth-centered approaches. Employing an experimental design and ensuring strict adherence to the randomization protocol by participating law enforcement agencies establishes confidence in the comparability of the study's treatment and control conditions. Moreover, this intervention surpasses traditional problem-oriented policing by training and encouraging officers to actively engage youth and community members and promoting police-community relationships, especially at a time when police-community tensions are on the rise.

We did not find any significant intervention effect on reducing violent crime in any of the three study sites, but observed some potential negative effects on property crimes in Site A and C. However, such negative effect was limited to hot spots that received low treatment dosages. It is important to note that while the control and treatment groups were assigned randomly, the low and high treatment designation was not randomized. Officers paid less attention to low-treatment areas with lower crime levels, possibly resulting in such areas not receiving sufficient attention to meaningfully reduce already low crime, but possibly enough to prompt more crime reporting. The lack of evidence for the effectiveness of the *POP Only* and *POP for Youth* interventions in these hot spots can be attributed to low crime counts, limited post-intervention observation time, and insufficient treatment dosage due to staffing shortages in smaller agencies due to the COVID-19 pandemic. Also, the aftereffects of the COVID-19 pandemic might have stifled better police-community youth interactions. That is, after having to avoid deliberately interactions with the public over the height of the pandemic to avoid the spread of

COVID-19, the police and public might have been slow to resume regular interactions. We encourage future work to test place-based POP with heavier POP activities and more consistent POP implementation in smaller agencies during this unique time. The COVID-19 pandemic also influenced many delays and challenges to the project. Some limitations include scheduling in-person training dates and interviews with agency officers, constrained resources such as short staffing of FIs, delays in collecting crime data and intervention tracking data, and strained formal engagement with community members due to only virtual methods like meeting fatigue. The team received a time extension in February 2023 to accommodate these unforeseen circumstances, but still some of the barriers had an enduring impact on the evaluation that extra time could not resolve (e.g., low implementation of POP).

ARTIFACTS

Our team developed a number of materials to allow for replication of our evaluation under alternative circumstances. We developed a PowerPoint training on the *POP for Youth* policing intervention for LEAs. This training could also be used by additional law enforcement agencies interested in employing a similar intervention in other cities and adapted to improve implementation fidelity based on findings from the qualitative data collection. For example, it may be beneficial to adapt the training into a short refresher training that could be viewed electronically by officers throughout the intervention period. We also produced a PowerPoint training on conducting in-person survey interviews for the FI team. This presentation consisted of information about the *POP for Youth* intervention, assistance with survey technology, and activities for practice in preparation for interacting with residents. Along with this training, we developed a manual for the FIs to access when needed, consisting of guidance on the project and in-person surveying similar to the PowerPoint.

We developed pre- and post-intervention community surveys regarding residents' perceptions and interactions with police in their community. We also produced interview/focus group instruments, FI materials, and recruitment materials for assessing the effectiveness of the *POP for Youth* intervention. Upon publication, these surveys and instruments can be used by other researchers to assess the

effectiveness of similar *POP for Youth*/community policing interventions in other cities. Three manuscripts are currently in progress for submission prior to the end of the project period.

CONCLUSION

POP has shown promise as an effective strategy to achieve crime reduction in crime hot spots compared to traditional approaches.^{1,2,21} However, our current study and others²² suggest these approaches are ineffective at reducing crime when implementation is low. However, our study findings need to be considered within the context of our recognized study limitations. First, our survey data are subject to the usual limitations of self-report surveys (e.g., telescoping of problems into the study timeframe). The COVID-19 pandemic required a shift in survey data collection methods due to difficulties in conducting in-person data collection and leading to lower response rates, which may in turn increase self-selection bias. Additionally, social tensions decreased officer morale and further reduced officer interactions with the public, creating a paradigm shift of enforcement. Nevertheless, the official crime data collected and analyzed as part of the evaluation is of high quality with no missing data. Second, the two treatment groups, POP Only and POP for Youth, were not distinguishable from one another in practice and as such, required aggregation of the *POP Only* and *POP for Youth* treatment groups. In addition, intervention activities were heavily focused on heightened patrol rather than traditional POP approaches or youth-focused activities. Third, the low levels of implementation of *POP Only/POP for Youth* in this study raises questions about what would have been with our outcomes if POP were implemented at higher levels. However, we did not find crime reductions even in our hot spots that received higher level of *POP Only/POP for Youth* implementation. Nevertheless, even in our hot spots that received higher level of *POP Only/POP for Youth* implementation they too were below planned levels for implementation. In total, *POP Only/POP for Youth* proved to not be effective in the very difficult circumstances of this study, but that does not preclude POP nor youth-focused POP from being effective under more typical conditions as seen in prior research.²

In sum, while this rigorous evaluation of POP and youth-focused strategies did not show a reduction in violent or property crime during the intervention or post-intervention periods, no negative effects were observed with the survey data on victimization reports or police-community sentiment. Strategies focused on POP and positive police-youth interactions may be more effective in decreasing crime and improve police-community relations when a heavier emphasis is placed on community engagement by the law enforcement agency and the level of implementation of a given intervention is greater than that observed in the present study.

Appendix

Table A1. Survey Sample Description – Baseline Wave 1 Characteristics

	Wave 1 (N=212)	
	Frequency/Mean	N Missing
Age	20.91 (SD=7.72)	0
Male	39.1%	
Female	59.4%	
Gender minority	1.4%	
Race/Ethnicity		7
White	40.0%	
Black or African American	28.3%	
American Indian or Alaska Native	2.9%	
Asian (e.g., Indian, Chinese, Filipino, Japanese, Korean, Vietnamese)	2.4%	
Multi-racial	7.3%	
Hispanic, no race specified	5.4%	
Other	13.7%	
Home Ownership		25
Own	16.0%	
Rent	73.8%	
Other	10.2%	
Household Income		99
Less than \$10,000	31.0%	
\$10,000 to \$25,999	25.7%	
\$26,000 to \$51,999	30.1%	
\$52,000 to \$74,999	8.0%	
\$75,000 to \$99,999	2.7%	
\$100,000 to \$124,999	1.8%	
More than \$125,000	0.9%	
Education Level		21
Elementary or Middle School	15.5%	
Some High School	24.0%	
High School Graduate or Equivalent	32.0%	
Some college or more	28.5%	

Table A2. Survey Sample Description – Baseline Wave 2 Characteristics

	Wave 2 (N=243)	
	Frequency/Mean	N Missing
Age	20.30 (SD=5.87)	0
Male	43.5%	
Female	56.1%	
Gender minority	0.4%	
Race/Ethnicity		11
White	37.1%	
Black or African American	30.6%	
American Indian or Alaska Native	1.7%	
Asian (e.g., Indian, Chinese, Filipino, Japanese, Korean, Vietnamese)	1.7%	
Multi-racial	4.3%	
Hispanic, no race specified	12.1%	
Other	10.8%	
Home Ownership		22
Own	19.5%	
Rent	76.0%	
Other	4.5%	
Household Income		120
Less than \$10,000	18.7%	
\$10,000 to \$25,999	30.1%	
\$26,000 to \$51,999	30.1%	
\$52,000 to \$74,999	11.4%	
\$75,000 to \$99,999	4.9%	
\$100,000 to \$124,999	4.1%	
More than \$125,000	0.8%	
Education Level		25
Elementary or Middle School	10.1%	
Some High School	30.3%	
High School Graduate or Equivalent	37.2%	
Some college or more	22.5%	

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