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Mental health, race, and deadly use of force

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Abstract

This study explored the relationship between suspected mental illness and officer-involved shootings, using data from an independently sourced database. The results showed that African Americans were more likely to be victims of fatal officer-involved shootings, and this likelihood increased for those who displayed signs of mental illness. These findings highlight two important issues: the collection of data regarding officer-involved shootings should include details regarding signs of mental illness, and documentation of the type of mental health issues involved in these incidents should be improved.

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1. Introduction

Awareness of officer-involved shootings (OIS) has increased via social media. In addition, campaign groups, such as #BlackLivesMatter, identify and publicize relevant incidents via social media, to highlight the issue. Moreover, careful cataloging performed by newspapers, such as *The Guardian*[1] and *The Washington Post,*[2] has shown that the majority of such incidents have involved unarmed African-American men. In an analysis of shootings that occurred in 2015, *The Guardian* found that the rate at which African Americans were killed by police was almost double those observed for other groups (Swaine et al, 2015). There is some debate about the extent of the involvement of racial bias in these incidents and other adverse police-related outcomes. Fryer (2016) tested the hypothesis that race was a driver in OIS, but the results did not support this proposition[3]. In a county-level analysis, Ross (2015) finds race does play a role in OIS. Because of data availability, other studies examining racial bias and policing have focused primarily on traffic violations (Persico, 2009)[4].

One factor that has received insufficient consideration is the role of mental health. As stated by Perry and Carter-Long (2016), "Disability is the missing word in media coverage of police violence." (page 1) There is reason to believe that mental health is a factor in these shootings, as mental health issues can often be interpreted as a sign of hostility, leading to aggressive policing (Engel and Silver, 2001; Morabito et al., 2016). In addition, approximately 12.8% of incidents involving deadly force included in the independent database, Mapping Police Violence (MPV), in 2015 involved individuals with suspected mental health issues. However, there is no consensus on the relationship between mental health and deadly encounters in the literature. Miller (2015) reported that deadly encounters occurred in situations in which suspects became hostile and police officers did not practice de-escalation procedures. Johnson (2011) finds that after controlling for suspect resistance and weapon possession, individuals with mental disorders are not more likely to be subject to physical force. Novak and Engel (2005) find that suspects with mental disorder are more likely to exhibit hostile behavior and this increases the likelihood of officer force.

This study aimed to estimate the effect of suspected mental illness on the likelihood of involvement in fatal OIS. We also considered the interaction between race and mental health. Because of data limitations, most research examining mental health and police behavior has focused on a single police department or several police departments. This was the first empirical study to use a national database to analyze the relationship between mental health and use of deadly force.

2. Data and Methodology

[1] https://www.theguardian.com/us-news/ng-interactive/2015/jun/01/the-counted-police-killings-us-database
[2] http://wpo.st/nm1C2
[3] The primary focus of the study was excessive use of force, and the results showed that race play a role in these incidents.
[4] A Maryland court case made all traffic-stop data for I-95 available, and economists have used these data to study racial bias (Knowles et al. 2001).

The availability of reliable and useful data is a significant issue in model development. Government sources tend to underestimate the number of OIS[5]. The White House has attempted to remedy this situation using the Public Safety Open Data Portal, which is a website that collects comprehensive data regarding law enforcement issues including use of force, arrests and traffic stops, assaults on officers, and OIS. However, the contribution of data is voluntary and few agencies have participated. Consequently, several independent groups have attempted to collect accurate data regarding OIS. One of the more comprehensive of these databases is Fatal Encounters, which is updated continuously and contains data regarding OIS reported since January 1, 2000. Moreover, two newspapers, *The Guardian* and *The Washington Post*, have catalogued OIS since January 2015. However, some of these data sources do not include information regarding suspects' mental health. The current analysis included data from MPV, which collects data regarding incidents dating back to January 2013 from several independent sources, such as Fatal Encounters[6], the U.S. Police Shootings Database, and KilledbyPolice.net[7]. MPV contains information about mental illness, but it does not provide any further details about type of mental illness or whether it is actual diagnosis. The measure only states whether the suspect exhibited symptoms of mental illness.

Since all of the individuals in the database died, we focused on suspects who were unarmed during fatal OIS. Suspects were considered unarmed if they had not been carrying any weapons[8]. We hypothesized that unarmed individuals would be less likely to experience lethal force relative to armed individuals. Miller (2015) posited that even if suspects do not have a weapon, such as a gun or knife, police are under threat of harm. Accordingly, we focused only on fatal incidents in which police had shot suspects[9]. Almost 86% of the deaths included in the dataset were caused by gunshot, and when taser-related deaths were included, this number increased to 90%.

The basic empirical specification, shown in (1), regresses the suspect's mental health status on the probability of being involved in a shooting given their armed status.

$$(1)\ \Pr(y_i = 1) = \alpha_0 + \alpha_1 Mental\ Health_i + \alpha_2 Race_i + \alpha_3 Mental\ Health_i * Race_i + \alpha_4 X_i + \theta_j + \delta_t + \varepsilon_i$$

The following covariates were included in each model: sex, age, race, and substance abuse[10]. In addition, we included location- (θ_j) and time-fixed effects (δ_t). As the dependent variable was binary, we estimated a probit model. The results are shown in Table 1[11]. Model 1 included the basic model; Model 2 included county and year fixed effects; Model 3 estimated the interaction between mental illness and race; and Model 4 included taser as the cause of death.

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[5] Information regarding officer-involved shootings is available from the Bureau of Justice Statistics and Centers for Disease Control and Prevention. The Federal Bureau of Investigation announced that it intends to improve data collection procedures in 2017.

[6] The Fatal Encounters database is updated through paid researchers, public records requests, and crowdsourced data. The data is validated primarily by the paid researchers through verification from media sources.

[7] Fatal Encounters is the only website that contains more detailed information about the confrontation. However, it does not contain any information about suspect mental health. U.S. Police Shootings Database and KilledbyPolice.net only contain basic information like name, age, and race.

[8] As categorized by the MPV, this includes cases in which law enforcement officers alleged that the suspects were armed, but witnesses, video evidence, or circumstances indicated otherwise. It also includes cases involving toy weapons or household/personal items.

[9] Shooting implies distance between the officer and suspect.

[10] The number of observations is 3,440. There are 1,180 counties and the time period covers 2013, 2014, and 2015. Summary statistics are provided in Appendix Table A1.

[11] We also estimated models including county-specific time trends, but the results were not substantively different.

Table 1. Probability that Unarmed, Relative to Armed, Individuals would be victims of fatal OIS

	Model 1 (n = 3,440)	**Model 2 (n = 3,419)**	**Model 3 (n = 3,419)**	**Model 4 (n = 3,419)**
Signs of mental illness	-0.106 [-0.018] (0.269)	-0.097 [-0.012] (0.380)	-0.189 [-0.012] (0.152)	-0.154 [-0.007] (.200)
African-American ethnicity	0.143 [0.024] (0.028)	0.275 [0.035] (0.001)	0.243 [0.040] (0.006)	0.366 [0.080] (<0.001)
Hispanic ethnicity	0.039 [0.007] (0.632)	0.030 [0.004] (0.774)	0.026 [0.003] (0.801)	0.141 [0.024] (0.132)
Interactions				
Mental illness × African-American ethnicity			0.388 [0.336] (0.060)	0.618 [0.479] (0.001)
Controls				
Male sex	-0.696 [-0.118] (<0.001)	-0.190 [-0.024] (0.154)	-0.191 [-0.024] (0.152)	-0.120 [-0.020] (0.343)
Age	-0.019 [-0.003] (<0.001)	-0.011 [-0.001] (<0.001)	-0.011 [-0.001] (<0.001)	-0.008 [-0.001] (0.002)
Substance abuse	0.230 [0.039] (0.051)	0.343 [0.043] (0.010)	0.340 [0.043] (0.011)	0.692 [0.117] (<0.001)

Note: Data were taken from the Mapping Police Violence database; marginal effects and p-values are presented in brackets and parentheses, respectively. The sample includes OIS within 1,180 counties over the years 2013, 2014, and 2015.
Model 1 included results for the basic model; Model 2 included county and year fixed effects; Model 3 estimated interactions between mental illness and race; and Model 4 included taser as the cause of death.

The findings are consistent across each model and showed that, relative to other groups, African Americans and individuals with substance abuse issues were more likely to be victims of fatal OIS while unarmed. The likelihood that African Americans would be victims of fatal OIS while unarmed doubled when taser-related deaths were included. In addition, older individuals were less likely, relative to younger individuals, to be involved in such encounters. Displaying signs of mental illness was not a significant factor in involvement in fatal OIS while unarmed. The results regarding interaction effects showed that, relative to other individuals, unarmed African Americans with mental illness were more likely to be victims of fatal OIS. The magnitude of the effects, while statistically significant, was low until taser-related deaths were included.

3. Discussion and Conclusions

This study sought to determine whether mental illness was a significant factor in unarmed individuals' fatal encounters with law enforcement, using data from an independent database that collects information regarding incidents throughout the United States. The results showed that African Americans were more likely to be victims of fatal OIS while unarmed. This is a result that is found by Ross (2015). This result is counter to Fryer (2016), though his analysis looked at the probability an officer would shoot first as opposed to whether the suspect was unarmed. Also, Fryer (2016) analyzed only 10 large metropolitan police departments, while the data in this study (and used in Ross (2015)) included a larger variety of police departments. Mental illness was a factor only for African Americans, and the effect of mental illness was stronger when causes of death included tasers. One of the limitations of the study was that we were unable to distinguish between types of mental illness. It is possible that separate mental health diagnoses manifest themselves differently, and their effects on police-citizen interactions vary. Another limitation is that we did not have contextual information about the nature of police-citizen interaction that led to the fatal OIS.

Certain agencies have taken steps to address this issue and provide training and professionals to assist law enforcement officers during calls involving individuals with mental health problems. For example, the Crisis Intervention Teams (CIT) program was implemented to facilitate safer police-citizen interactions involving individuals with suspected mental illness. There is no consensus regarding the effectiveness of the CIT program, as the training provided by law enforcement agencies is not universal. Watson et al. (2008) reported that only 10% of typical police departments provided CIT training. In addition, another program, Psychiatric Emergency Response Training, in which mental health professionals accompany police officers on calls involving individuals with suspected mental illness, has been implemented. Research is required to evaluate these programs, and researchers should be provided with access to detailed mental health information pertaining to incidents involving OIS and excessive use of force. Access to this information could help policymakers to address mental health and policing issues.

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APPENDIX

Table A1. Summary of Descriptive Statistics (n=3,440)

Variables	**Mean**	**SD**
Dependent Variable		
Unarmed and shot	10.0%	0.30
Unarmed and shot/tasered	12.7%	0.33
Controls		
Signs of mental illness	21.9%	0.41
African-American ethnicity	27.8%	0.45
Hispanic ethnicity	16.3%	0.37
Substance abuse	5.6%	0.23
Male sex	93.7%	0.24
Age (years)	36.5	13.7

Note: SD = standard deviation