

ANALYSIS OF DISPUTE RELATED SHOOTINGS

March 2014



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Introduction

This paper examines dispute-related shootings in the City of Rochester. Two research questions are examined here. First, how do dispute-related shootings differ from non-dispute related shootings? Second, what factors predict the likelihood that a dispute-related shooting will occur? These questions will be addressed with an analysis of the Rochester Shooting Database (RSD).¹ The analysis will proceed in two steps. First, t-tests will be examined that compare dispute-related shootings and non-dispute related shootings across important predictors of crime. Second, a logistic regression analysis will explore the most important predictors of dispute-related shootings. The paper will conclude with a brief discussion of the implications of these findings for policy and practice.

Comparing Shooting Types

The first step of the analysis is to compare dispute-related shootings and non-dispute related shootings across important predictors of crime. This will be achieved using t-tests. T-tests allow us to examine differences in mean levels of important predictors of violence by shooting type. In this analysis we are interested in determining if mean levels of important victim characteristics, victim outcomes, situational factors, and investigative factors differ between dispute-related shootings and non-dispute related shootings. The results from the t-test analysis are shown in Table 1. The table is organized in the following manner. Column 1 describes the variable(s) examined. Column 2 provides the mean value of that variable for dispute-related shootings. Column 3 describes the mean value of that variable for non-dispute-related shootings.

¹ For more information about the development of the RSD see Dipoala et al. (2013, <http://www.rit.edu/cla/criminaljustice/sites/rit.edu.cla.criminaljustice/files/docs/WorkingPapers/2013/2013-03.pdf>)

Column 4 indicates whether there is a significant difference in mean levels of dispute-related and non-dispute-related shootings for that particular variable. A plus indicates

Table 1. T-test Results for Dispute-Related Shootings

Variable	Dispute Related	Non-Dispute Related	Significant
<i>Victim Outcomes/Characteristics</i>			
Victim fatality	0.149	0.083	+
Number of fatalities	0.166	0.095	+
V1 prior parole	0.222	0.188	-
V1 criminal history	0.885	0.843	-
V1 substance possession	0.413	0.368	-
V1 substance sale	0.121	0.100	-
Violent arrest	0.395	0.360	-
Violent victimization	0.351	0.322	-
Victim Prior CPW	0.310	0.223	+
Property Victimization	0.282	0.277	-
Property Arrest	0.461	0.466	-
Gang Affiliation	0.388	0.332	-
Victim Drug Involvement	0.026	0.050	-
Victim Crime Propensity	0.041	-0.060	+
<i>Situational Factors</i>			
Victim and Suspect Strangers	0.378	0.844	+
Shooting at Known Drug Location	0.209	0.204	-
Crime Precipitated by other Criminal Event	0.095	0.120	-
Brawl	0.086	0.017	+
Self-defense	0.017	0.008	-
During Another Crime	0.158	0.318	+
Victim had Weapon	0.086	0.050	-
Victim Aggressor	0.063	0.018	+
Domestic	0.054	0.004	+
Romantic	0.144	0.004	+
Drug Trade	0.292	0.161	+
Conflict History	0.127	0.009	+
<i>Investigative Factors</i>			
No. FIFs in Last 6 months	1.103	0.975	-

No. Contacts in Last 6 months	0.542	0.529	-
No. Calls for Service in Last 6 months	0.759	0.713	-
Suspect Identified (see note)	0.470	0.197	+
Suspect Arrested	0.594	0.660	-
Investigation Time	55.670	43.968	-

(.05 Significance Level)

Note: Only 207 cases for this variable.

a statistically significant difference in mean levels and a minus indicates that dispute-related and non-dispute-related shootings do not differ significantly for that particular variable.

The first section of the table examines victim outcomes/characteristics across dispute-related and non-dispute-related shootings. The results indicate that dispute-related shootings are more likely to result in a fatality and more likely to have multiple fatalities. Additionally, victims of dispute-related shootings are more likely to have previous arrests for criminal possession of a weapon than victims of non-dispute-related shootings.

The second section of the table examines differences in situational factors across dispute-related and non-dispute related shootings. Dispute-related shootings are more likely to involve a conflict history between the victim and offender, more likely to be romantic or domestic in nature, more likely to be generated as a result of the drug trade, more likely to occur in the context of a brawl between two groups, and more likely to involve a victim that acted as an aggressor during some point in the shooting. Dispute-related shootings are less likely to be carried out during the commission of another crime, or involve participants who are strangers.

The third and final section of the table examines whether important investigative outcomes differ for dispute-related and non-dispute-related shootings. For the most part, there are no significant differences. The one important difference, however, is that suspects are more likely to be identified in dispute-related shootings.

Predicting the Odds of Dispute-Related Shootings

Table 2 reports a logistic regression analysis of the predictors of dispute-related gun violence. Regression analysis is a statistical tool that allows us to determine the effect of an independent variable on a dependent variable when holding other important predictors constant. For Table 2, the dependent variable is dispute-related shootings. The coefficients reported in Table 2 are odds ratios. An asterisk next to the odds ratio indicates that the effect of the independent variable on whether or not a shooting is dispute related is statistically significant. The results reveal that odds of a shooting being dispute

Table 2. Logistic Regression of Factors influencing Dispute-Related Shootings	Odds Ratio
Conflict History	19.79 *
Victim previously Victimized for Violent Crime	.82
Victim previously Victimized for Property Crime	1.44
Victim Propensity for Crime	1.29
Shooting a Result of the Drug Trade	3.27 *
Shooting Occurred at Drug Location	1.10
Domestic (Household) conflict	14.84 *
Victim had Weapon	2.05
Gang Involved	1.80 *
Shooting Occurred during a Brawl Between Two Groups	4.26 *
Shooting Occurred During the Commission of Another Crime	.32 *
Constant	.84

* P < .05

Number of Observations: 451

related are higher when the victim and the offender have a previous conflict history, when the shooting occurred as a result of the drug trade, when there was previous evidence of a domestic dispute between the parties, when the shooting was gang involved, when the shooting occurred during a brawl between two groups. Not surprisingly, the odds of a shooting being dispute related are less likely when a shooting occurring during the commission of another crime.

Implications

These findings have important implications for criminal justice policy. First, the research points to the risk that dispute-related violence poses to public safety. The t-tests demonstrated that dispute-related shootings are more likely to be fatal and have a larger number of victims. Future research will be needed to determine exactly why this is the case, but the results lend support to the argument that law enforcement should make dealing with dispute-related violence a priority. Second, the t-tests revealed that victims of dispute-related shootings were more likely to have a history of illegal weapon carrying. This suggests that both the aggressor and the victim in such incidents may have access to weapons and attempts to reduce weapon carrying may help reduce dispute-related shootings. Third, police data that are currently being collected can prove useful in predicting which incidents are likely to become dispute-related shootings. For many of the dispute-related shootings there is existing evidence that the disputants are at odds before the shooting occurs. This affords RPD the opportunity to identify potential violent disputes and take pre-emptive measures before they escalate into a shooting. Fourth, any attempt to deal with dispute-related violence must address its proximate causes: gang violence and the drug trade.