

Homicide: After the Disaster

Homicide Research Working Group
Annual Meeting 2011
New Orleans, LA

Meeting held at Hotel Monteleone, June 8 – 11
Rae Taylor, Local Arrangement Chair
Local Arrangements by Loyola University
Christa Polczynski Olson and Tom Petee, Co-Program Chairs

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Meeting Itinerary

Wednesday, June 8

Opening Reception (6:00 – 9:00 pm, Loyola University, Danna Center, Audubon Room)

Hors d'œuvres and Cocktails (6:00 pm)

Key Note Presenter: Ronal Serpas, Superintendent, New Orleans Police Department (7:30 pm)

Reception and Transportation: Provided by Loyola University

Transportation will be available at 5:30 in front of Hotel Monteleone

(Or you may pay your own way on the Street Car; the St. Charles' Street Car stops at Loyola University. It will take 30-40 minutes by street car, with cars running every 10 minutes.)

** A map of Loyola University is at the end of the program.

Instructions to get to the Audubon Room at Loyola University

From St. Charles Avenue, locate Marquette Hall. Walk straight through Marquette, exit through the back to the Peace Quad garden area. Walk straight through a second building, Bobet Hall. When exiting the back of Bobet Hall, the Danna Center is straight ahead, adjacent to the Monroe Library. The Audubon Room is on the second floor, directly at the top of the stairs.

Saturday, June 11

Complementary Continental Breakfast (provided by the Hotel Monteleone in the Riverview Room)

Third Day Announcements (9:00 – 9:15 am, Riverview Room)

Session VII – *Domestic Violence and Homicide* (9:15-10:30 am)

Gabrielle Salfati, John Jay College of Criminal Justice, Session Chair & Discussant
Facilitator

James McCutcheon, University of Central Florida, Recorder

Susan Elizabeth Estes Bourgeois, Southeastern Louisiana University

Filicide: The Muffled Cries Of America's Silent Phenomenon

Christine Rasche, University of North Florida

Domestic Violence Fatality Reviews: Part I The Value and Challenges of a Growing Phenomenon

Jacquelyn Campbell, John Hopkins University

Domestic Violence Fatality Reviews: Part II Opportunities for Research and Policy Collaborations

Second Business Meeting and Closing (10:30-11:00 am)

Session I – Factors of Homicide

Violence & Disorganization in the Sunshine State: A County-Level Analysis

William C. Watkins and Hollianne Marshall
University of Central Florida

Crime and delinquency are commonly attributed to the individual who commits the offense that violates the law. Traditionally, there are several factors that can explain an individual's criminal behavior, such as delinquent peer associations (Sutherland, 1947), lack of commitment to commonly valued goals and achievements (Hirschi, 1969), personal stressors and strain in one's life that causes one to turn to crime in order to escape (Agnew, 1992), an absence of self control (Gottfredson and Hirschi, 1990), or simply individual pathologies that lead to delinquent behavior (McCord and McCord, 1956). All of these aspects speak to the experience of the individual and are only minimally, if at all, attributable to the environment at large. Specifically, changing the unit of analysis from the individual to a spatial area (block, neighborhood, zip code, etc.) can paint a better picture of how aggregate-level predictors can affect crime and delinquency in a particular area. Because of this, we can begin to categorize the propensity for crime in a certain area based on the characteristics of that area as a whole. This was first conceptualized in the early 1900's by examining the urban ecology of the city of Chicago and characteristics that differentiated various parts of the city in a variety of ways (Park, Burgess, and McKenzie, 1928).

The majority of works examining community disorganization and its connection to criminal behavior utilize a neighborhood level of analysis. While this is ideal for studying different neighborhood patterns in a larger unit such as a city or town, any body of spatial area larger than this makes a neighborhood analysis more difficult and also can confound the scope of one's study. The idea of disorganization affecting delinquency in a community was originally developed for and tested at the neighborhood level, but there have been comparatively few studies that have sought to take the idea of social disorganization out of the urban, metropolitan community setting and apply it to larger spatial areas of residence to assess if the tenets of the social disorganization theory hold true. This study looks to add to that smaller body of literature by examining the effects of social disorganization at the county level in the state of Florida. Specifically, this study examines the effect that socioeconomic deprivation, residential instability, and population heterogeneity have on violent crime rates. By doing this, we are able to test the ability of social disorganization to explain crime outside of the city setting, assess whether county-level findings are in line with those of neighborhood-level studies, and ascertain which factors are strongest and weakest in their explanatory power.

Data and Methods

The data for this study comes from two sources. First, the figures regarding violent crime rates at the county level were retrieved from the Florida Department of Law Enforcement website (www.fdle.state.fl.us). Second, the county-level disorganization measures used were garnered from the 2000 U.S. Census (factfinder.census.gov). Using PASW 18.0, descriptive statistics are provided for all variables in question while linear regression using ordinary least squares estimators was utilized to examine the effects that measures of social disorganization had on county level violent crime rates.

The violent crime rate for all Florida counties (N=67) was used as the dependent measures in this study. Violent crime was measured as an additive index, which included murder, forcible sex offenses, robbery and aggravated assault. This was reported as a rate of violent crimes per 100,000 citizens.

Ten variables representing three social disorganization constructs were analyzed in this study. The first construct, socioeconomic deprivation, was measured using five indicators: The percent of individuals in the county below the poverty line, the percent of individuals on some form of public assistance (ex. welfare), the percent of female-headed households, the percent of individuals eligible for the civilian workforce who are unemployed, and the percent of those in the county who are under 18 years of age. The second construct, residential instability, was measured using three indicators: The percentage of individuals who indicated they had moved from another residence in the last five years, the percent of homes listed as vacant in the county, and the percent of rental properties in the county. The final construct, population heterogeneity, was measured by two indicators. The first was the percent of citizens who were “linguistically isolated”. This is defined by the percent of those who listed on the 2000 census that they spoke English “less than very well”. The second indicator was the percent of individuals in the county who were immigrants, defined as being “foreign born” on the 2000 census. Finally, to test the overall explanatory power of each of the social disorganization constructs of interest in this study, standardized z-scores were calculated and an additive index was created combining the indicators of socioeconomic deprivation, residential instability, and population heterogeneity, respectively. These three indices were then included in a separate regression equation for violent crime rates.

Results

A descriptive analysis the county level shows that the mean violent crime rate was just over 600 offenses per 100,000 citizens. When a linear regression was performed looking at the effects of social disorganization on violent crime rates at the county level in Florida the analysis indicated that the model which included the all measures representing the disorganization constructs was significant ($F=4.674$, $p<.001$) and indicated that the disorganization variables accounted for just under 40% of the violent crime reported. When looking at individual indicators, only the percent of female-headed households was significantly related to the violent crime rate at the county level, in a positive direction as expected ($b=44.76$, $p<.05$). When running a linear regression analysis on violent crime rates using the construct indices as predictors we again see that the model was significant ($F=5.549$, $p<.01$). When using these indices, however, we see that proportion of variance explained by the predictors drops by almost half ($R^2=.209$). Regarding the individual indices themselves, socioeconomic deprivation ($B=20.64$, $p<.05$) and residential instability ($B=46.01$, $p<.05$) were both positively, significantly related to violent crime rates at the county level.

Discussion

The results indicate that, when it comes to violent crime at the county level, factors of social disorganization can account for a large proportion of the variance in the crime rate. When examining specific factors of disorganization, only the percent of female-headed households in a county was significantly related to the violent crime rate. While this association was in accordance with disorganization theory (higher percent of female headed households associated with higher violent crime rates), it was surprising to see that this factor was the only single item that had any significant relationship with violent crime. When collapsing our variables into an index of the three social disorganization constructs, a bit more could be seen, in that

socioeconomic deprivation and residential instability were significantly related to violent crime rates at the county level. While population heterogeneity did not display the same significant association as the other two, the significant indices were in line with the tenets of disorganization theory in regards to their relationship direction. These findings indicate partial support for the application of social disorganization theory at the county level.

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The Relationship of Income Inequality to Black and White Homicide Rates and Other City Characteristics

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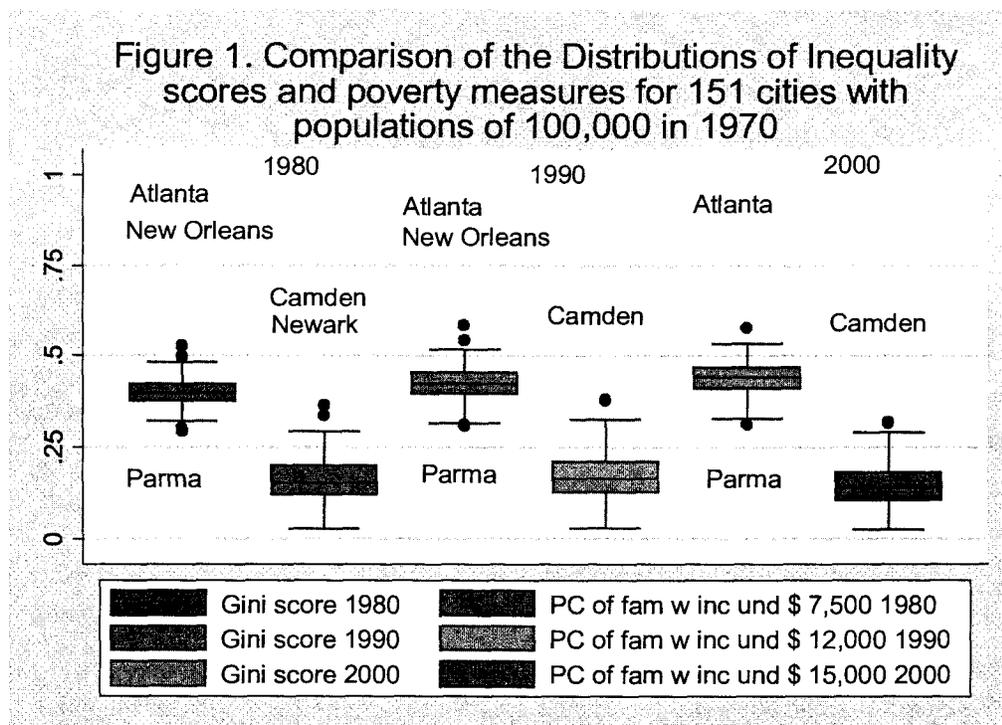
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At the 2010 Homicide Research Working Group meeting Martin Daly noted the consistent relationship between income inequality and homicide rates in cross-national studies and rejected criticism of income inequality presented by William Pridemore in a 2008 Criminology article. Daly said Pridemore was wrong to characterize poverty as an absolute rather than a relative measure of deprivation and disagreed with Pridemore's suggestion that inequality as measured by a Gini coefficient might be an inappropriate measure of deprivation. Daly argued inequality was an appropriate measure of deprivation and questioned Pridemore's use of infant mortality as a poverty measure because homicide and infant mortality are both components of overall mortality. Finally, Daly objected to Pridemore's assertion that structural level theorists too often resort to reductionist explanations about individual behavior. Skipping over the impact of social structure on the formation of groups and the shared beliefs of groups, Daly suggested that structural variables obviously affect homicide through their effects on individuals.

Before discussing the logical arguments suggested by this debate, we look at the ways in which Gini scores are linked to other measures of deprivation in U.S. cities with populations of at least 75,000 residents. The poverty measure is the percent of families in a city with incomes below a specific figure. Per capita income is the aggregate income in a city divided by the total population of the city. Male employment is measured by the percent of males 16 and older who reported some employment during the year before the census. Family living arrangements, family structure, is the percent of families with children with no husband present. In addition, we look at the complex ways in which all of these variables are linked to the relative size of the black population in these cities. This is the percent of the population reported as black or African American in the census. We then use three-year average homicide rates for 1980, 1990, and 2000 with city level Gini scores, provided by Patty McCall, to examine the relationship of inequality to black and white homicide rates. With this information in mind, we return to the inequality-poverty debate.

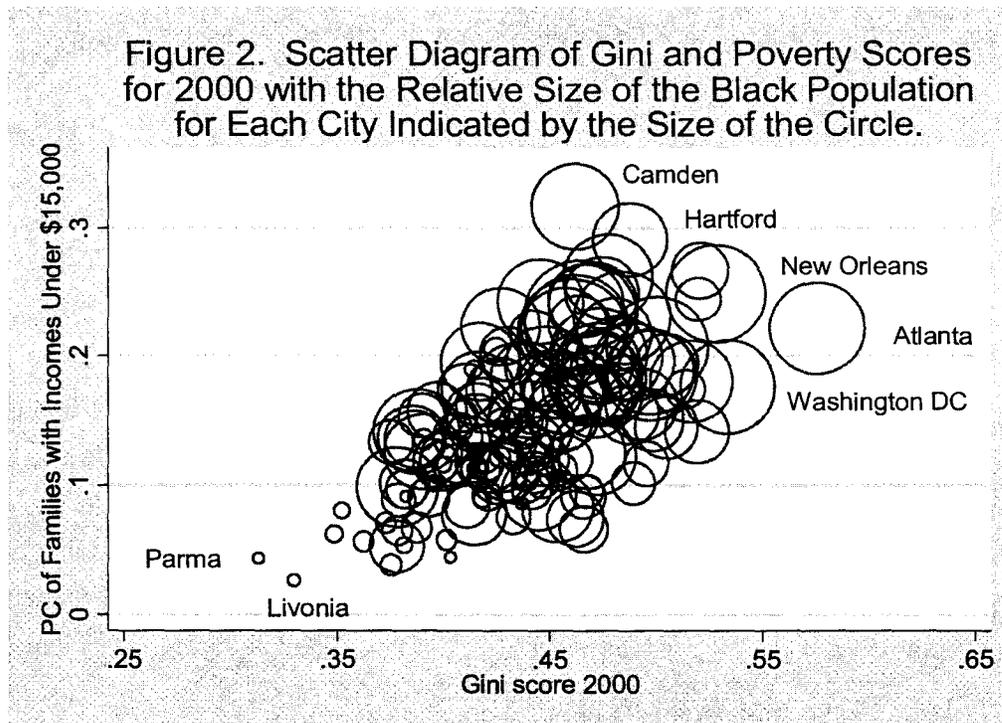
We begin with a comparison of income inequality scores and a measure of poverty for 1980, 1990, and 2000. The inequality measure is the Gini coefficient for each city. It varies from 0 to 1, with scores near 0 indicating an almost completely equal distribution of income and scores near 1 indicating a very unequal distribution of income. The box plots in Figure 1 show the distribution of Gini scores for 151 cities that had populations of 100,000 or more in 1970. Box plots are similar to histograms but provide more information than histograms. The box plot

for Gini scores in 1980, shown on the far left in Figure 1, reflects a median Gini score for these cities in 1980 of about .40. The median is indicated by the line within the box. Since the top of the box is the first quartile and the bottom of the box is the third quartile of the distribution, 50 per cent of the Gini scores for these cities are between .38 and .42. About 98 percent of the scores fall between the top “whisker” (.49) and the bottom “whisker” (.30). However, there are extreme values on both ends. The top circles are outliers that represent Atlanta and New Orleans with Gini scores of .53 and .50 respectively. These were the cities with the greatest income inequality in 1980. The bottom circle represents Parma, Ohio, a suburb of Cleveland that had a population over 100,000 in 1970. It is an outlier in the other direction (.29). It was the city in the 1980 set with the greatest income equality. The box plot patterns for 1990 and 2000 do not change much except to suggest a kind of income inequality “creep” toward greater inequality in general.



The second, fourth, and sixth box plots from the left in Figure 1 show the distribution of poverty measures for these cities. The poverty measure for 1980 was the percentage of families with incomes below \$7,500, and the plot suggests that the cities with the highest percentage of their population living in poverty were Camden and Newark, New Jersey. For 1990 we used the percent of families with incomes below \$12,000 as the poverty measure. In 2000 this figure was \$15,000. Using these measures Camden was the poorest large city in the United States for all three periods, yet its inequality (Gini) score was not too far above the median Gini score for the set. For 2000, for example, a third of Camden’s families had incomes below \$15,000, but there were 50 cities with higher Gini scores identifying them as cities with greater income inequality.

Figure 2 shows the relationship between the Gini scores for 2000 and the percent of families with incomes below \$15,000 ($r = 0.62$). Clearly, cities with greater income equality usually had smaller proportions of their populations in poverty in 2000. Livonia, Michigan, a suburb of Detroit, and Parma have only three and four percent of their populations in poverty. However, the chart also indicates that the most equal cities in the country have very small black populations, and cities with the greatest inequality of income have some of the largest black populations (Atlanta and New Orleans). This relationship of the Gini coefficient to the relative size of the black population is concealed if we look only at the linkage of poverty and inequality and fail to add weights to the markers.



The linkages among poverty, inequality, and the size of the black population are underscored when we examine the correlation coefficients for the Gini scores and a set of census characteristics for each city. Table 1a indicates that, if we ignore race, the strongest zero order correlation is that between the Gini scores and poverty ($r=0.62$). Other correlations are 0.52 for Gini and percent black and 0.51 for Gini and mother-child families. However, if we look at Table 1b and the relationship of the Gini scores to measures of black income, black employment, and the percent of black mother-child families we see some differences. Black per capita income in Table 1b is negatively related to the Gini score (-0.25) while white per capita income in Table 1c is positively related to the Gini score (0.40), and this relationship is very weak (0.04) when race is ignored in Table 1a. These figures suggest that as inequality increases black per capita income decreases and white per capita income increases, but that these patterns are lost when we ignore race.

Table 1a. Zero Order Correlations for Gini Scores and Measures of Poverty, Income, Employment, Family Structure, and the Relative Size of the Black Population. N = 148 All Residents (Black, White, and Other)

	Gini 2000	Poverty	Income	Employment	Fam Struc	PC Black
Gini 2000	1.00					
Poverty	0.62	1.00				
Income	0.04	-0.66	1.00			
Employment	-0.38	-0.82	0.60	1.00		
Fam. Struc.	0.51	0.84	-0.49	-0.67	1.00	
PC Black	0.52	0.64	-0.28	-0.53	0.83	1.00

Table 1b. Zero Order Correlations for Gini Scores and Measures of Poverty, Income, Employment, Family Structure, and the Relative Size of the Black Population. N = 148 Black Residents

	Gini 2000	Poverty	Income	Employment	Fam Struc	PC Black
Gini 2000	1.00					
Poverty	0.34	1.00				
Income	-0.25	-0.85	1.00			
Employment	-0.48	-0.59	0.46	1.00		
Fam. Struc.	0.31	0.67	-0.50	-0.55	1.00	
PC Black	0.52	0.35	-0.36	-0.45	0.48	1.00

Table 1c. Zero Order Correlations for Gini Scores and Measures of Poverty, Income, Employment, Family Structure, and the Relative Size of the Black Population. N = 148 White Residents

	Gini 2000	Poverty	Income	Employment	Fam Struc	PC Black
Gini 2000	1.00					
Poverty	0.25	1.00				
Income	0.40	-0.61	1.00			
Employment	-0.12	-0.77	0.58	1.00		
Fam. Struc.	0.04	0.75	-0.59	-0.57	1.00	
PC Black	0.52	0.14	0.07	-0.21	0.12	1.00

The pattern is different for Gini and mother-child families but equally striking. There is almost no correlation between these two variables when we focus on white residents in Table 1c (0.04), so the overall relationship seen in Table 1a (0.51) must be a function of the relationship of the Gini scores and the percent of mother-child families for black residents (0.31). Finally, the percent of employed black men is more strongly related to the Gini score in Table 1b (-0.48) than the percent of employed white men is related to the Gini score in Table 1c (-0.12). These

associations and those for percent black that are highlighted indicate why the variables that predict homicide rates are different when we carry out race-specific regression analyses than when we carry out an analysis that ignores race.

Table 2 contains the results of a regression analysis that uses the Gini measure and four census measures of deprivation to predict the overall homicide rate for 135 cities. This is the number of cities for which usable black, white, and total homicide rates were available and in which there were at least 3,000 black residents. It was necessary to exclude cities with small black populations to avoid misleadingly high black homicide rates that can occur when a city has a very small black base population. We decided to use the same set of cities for all three analyses to eliminate another possible source of variation in the results. When we ignore race, as we do in Figure 2, we find that four of the five measures of disadvantage are statistically significant predictors of the logged homicide rate. Only the percent of employed men is not significant. The strongest predictor of homicide is the percent of mother-child families, and the percent of families in poverty is a slightly better predictor of homicide than the Gini score.

However, the mean Variance Inflation Factor (VIF) for Table 2 is almost 7 and the VIF for poverty is over 16. This suggests that multicollinearity might be a problem. When we drop the poverty variable and rerun the analysis the mean VIF drops to 2.35 but the results are very similar to those in Table 2. Only the percent of employed men is not a significant predictor of homicide, and the percent of mother-child families is still a better predictor than the Gini score.

Table 2. Regression Results When Race is Ignored for the Year 2000, N = 135, Adjusted R-squared = 0.55.

Total Homicide Rate	t	P > t	Beta
Gini 2000	3.84	0.000	.46
PC in Poverty	-2.24	0.027	-.53
PC Employed Men	-1.28	0.203	-.15
Per Capita Income	-3.19	0.002	-.41
PC Mother-Child Families	5.75	0.000	.64
cons	0.58	0.561	

When we focus on the white homicide rate and a set of similar variables for white residents in Table 3, the Gini score is almost significant and the percent of employed white men is a strong and significant predictor of homicide. However, the VIF for poverty, while not as high as it was for the total homicide analysis, was 5.24. When poverty is removed as a predictor, the mean VIF drops to 2.34, and both employed men and the Gini score are significant predictors of the logged white homicide rate.

Table 3. Regression Results for the White Homicide Rates in 2000, N = 135, Adjusted R-squared = 0.32.

Total Homicide Rate	T	P > t	Beta

Gini 2000	1.86	0.065	.21
PC in Poverty	1.38	0.170	.23
PC Employed Men	- 3.40	0.001	- .42
Per Capita Income	0.12	0.904	.02
PC Mother-Child Families	- 0.32	0.190	- .15
cons	2.81	0.006	

A much different pattern emerges when we focus on the black homicide rate and use similar independent measures for black residents in Table 4. The Gini score is not an important predictor of the black homicide rate in this case, and only the percent of employed black men and the percent of mother-child families are significant predictors of the black homicide rate. Moreover, the VIF for this analysis is 2.83, and when poverty is taken out of the analysis, the mean VIF drops to 1.52. With and without the poverty variable, employed men and mother-child families are equally strong and significant predictors of the square root of the black homicide rate. Using the square root produces a distribution closer to normal than a log transformation in this case, but the results are substantially the same regardless of the transformation used.

Table 4. Regression Results for the Black Homicide Rates, Year 2000, N = 135, Adjusted R-squared = 0.28

Total Homicide Rate	t	P > t	Beta
Gini 2000	- 0.31	0.754	-.03
PC in Poverty	- 0.75	0.453	-.13
PC Employed Men	- 3.09	0.002	-.32
Per Capita Income	- 1.26	0.211	-.17
PC Mother-Child Families	2.99	0.003	.32
cons	3.11	0.002	

Conclusion

The results suggest that, at the city level of aggregation, if we ignore race, inequality in the form of a Gini coefficient is an important predictor of overall homicide offending rate. Moreover, with poverty removed inequality is a significant predictor of the white homicide rate. However, when we focus on black homicide offending, we find that income inequality is not a significant predictor of homicide. This is not surprising given that a city can have a very high homicide rate and a middle range Gini score (Gary, Detroit, St. Louis). This and the race-specific regression results suggest that inequality, as measured by Gini scores, provides only a limited indication of economic deprivation. Twenty to thirty percent of the residents in a city can be poor and the city can have a middle range Gini score (Camden, Cleveland, Gary, and Detroit). The fact that these were all majority black cities in 2000 suggests that in cities where a large number of people have equally low family incomes the Gini score will be relatively low and this may produce a misleading attribution of advantage rather than disadvantage.

Although this analysis does not tell us much about the Gini scores when they are used with higher and lower levels of aggregation, nations and neighborhoods for example, the results

emphasize a point we have made in earlier papers. To understand homicide rates in U.S. cities, we have to look at the data by race, class, and gender, but especially by race. When we look at the extent to which income inequality predicts an overall homicide rate, we are assuming that homicide is equally distributed by race and sex. However, this is not the case in this set of cities. Nor is it a reasonable expectation in any U.S. city with at least 75,000 total residents and at least 3,000 black residents. In many large U.S. cities 70 to 80 percent of homicide victims and offenders are black and about 80 percent of them are male. As a result, almost two-thirds of the homicide victims in the largest cities in the country are black men.

Studies that focus on inequality or use “disadvantage indices” frequently ignore or overlook race and, in the process, cause us to overlook the importance of racial isolation as a structural factor in the production of homicide. Research into and discussions of the ways in which racial and economic separation fosters distinct cultures that encourage and perpetuate violence and homicide are long overdue. Until we can talk about and better understand why this is such a persistent pattern in urban American life, there is little prospect of substantially reducing U.S. homicide rates.

Integrative Model of Exposure to Violence, Aggression, and Violent Offending

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ABSTRACT

Adolescents are exposed to violence at high rates within their homes and neighborhoods, occurring when life course trajectories form. Exposure has implications for increased risk of violent offending in intimate partner relationships and in the community. Using data from the Project on Human Development in Chicago Neighborhoods (PHDCN), this project investigated the intergenerational transmission of violence while controlling for the family environment as well as the adolescent's self-reported aggressiveness, sex, and race. In doing so, the factors of violent behavior learned through exposure to modeled violent behavior vs. violence from an anti-social behavior trait were examined individually as well as in relation to one other.

STATEMENT OF THE PROBLEM

Adolescents are exposed to violence – either experiencing or witnessing violence – at high rates both within their homes and in their neighborhoods (Finkelhor et al., 2009; Ireland and Smith et al., 2009; Hanson et al., 2006; Finkelhor et al., 2005). Finkelhor et al. (2005) found in their nationally representative sample of children ages 2 to 17 years that more than 50% reported experiencing a physical assault, more than 12% a form of child maltreatment, and more than 33% witnessed violence or experienced victimization of another type indirectly. Overall, 71% reported a direct or indirect victimization in the study year, with a mean number of three victimizations. In a second national survey of children age 17 and under, Finkelhor et al. (2009) found that in the past year, almost 40% were direct victims of two or more violent acts; 10% were victims of violence five or more times. Over 6% were victimized sexually, 10% experienced some form of child maltreatment, 25% witnessed a violent act, and almost 10% saw one family member assault another family member.

Historically, research on violence and violent behavior investigated violence in the home and violence in the community as discrete phenomenon (Maxwell and Maxwell, 2003; Gorman-Smith et al., 2001; Fagan and Wexler 1987; Gelles, 1985). Indeed forms of family violence – child maltreatment, spousal abuse, sexual abuse, emotional abuse, witnessing interpersonal violence – were often studied in isolation as if univariate risk factors (Hanson et al., 2006; Williams, 2003; Saunders, 2003; Gelles, 1985). In addition, family violence and community violence have different theoretical explanations. However, in order to study all forms of adolescent exposure to violence together, traditional theories on delinquency and aggression need to be tested in conjunction with family violence measures (Fagan and Wexler, 1987). To

address this, this project developed an integrative model of exposure to violence (ETV), aggression, and violent offending.

THE PRESENT STUDY

Research questions

The main hypothesis for this project (Marz, 2008) was based on results from prior research: that adolescent exposure to violence in any setting will be positive and significant to offending as adults after statistically controlling for other factors. Specifically, the project sought to answer three questions:

- 1) Does witnessing primary caregiver-partner violence or experiencing child-directed aggression during adolescence correspond to committing violence in later romantic relationships?
- 2) Does witnessing or experiencing violence in the community during adolescence relate to future incidents of committing community violence?
- 3) Do situational crossovers occur? In other words, does exposure to violence in the home correlate to violent offending in the community, and vice versa.

Data

To test this integrative model required data that captured all these factors from similar measures within one dataset. Therefore, this project used data from the Project on Human Development in Chicago Neighborhoods (PHDCN). These data were drawn from a diverse sample: respondents were of multiple ethnicities, females and males, and from urban neighborhoods with varying SES and ethnicities. Data were obtained from the general population which is more likely to include adolescents involved in delinquent behavior than a school-based sample from which they may be under-represented or absent. The PHDCN used a longitudinal, prospective design. Similar measures were obtained from multiple informants – for this project, from both the adolescent and his or her primary caregiver (PC).

Cohort 15 was used as it is unique: the PCs reported about relationship conflict between themselves and their partner in Wave 1 and Wave 2 and the adolescents, which were now young adults, responded about their relationship violence in Wave 3. The final analysis sample has 335 cases, which were cases without missing data on the variables used for the analysis.¹ In addition, the PHDCN data allow for the adolescent's history of offending to be controlled when examining the effect of in-home vs. community exposure to violence on subsequent offending as adults.

Methods

All exposure to violence measures used for this project were created from self-reports from the subject or the PC. Although self-reports on their own cannot provide a full picture of an individual's experiences, they allow analyses from the perspective of the individual (Raudenbush et al., 2003). Self-reports of violence are also independent of biases in official records from the criminal justice system (Sampson et al., 2005).

¹ Imputations for missing data were performed. See Marz (2008) for details.

For the repeated measures, only violent behaviors were coded that can be learned through modeling and for which one can be arrested. So included were psychological severe items, such as threats, as well as physically minor and severe acts. Differences in instruments year to year meant different items were available. Rather than use only the small number of truly common measures, the models used all reported violence by the informant in that wave. Table 1 shows the individual items used for the repeated measures by wave. The difficulty, of course, with considering multiple forms of violence at one time is examining the unique effects of each form controlling for and separate from the other forms. Therefore, multicollinearity was addressed by combining correlated measures into single independent variables.

The analyses were conducted with multivariate, negative binomial regression using Stata, which can handle count data with non-normal distribution and can diagnose if the data are overdispersed². Intimate partner violent offending (IPV)³ and violent offending in the community as dependent variables were modeled separately. The reference group for all models was White females living with both biological parents in non-chemically dependent households above the poverty level.

In addition, separate models were run to examine the effects of contemporary, cumulative or i.e., “life-time”, and prior exposure to violence. In order to approximate “lifetime” exposure, the subject ETV responses from Wave 1 and Wave 2 were summed for the cumulative (i.e., combined) models and all three waves were summed for the contemporary models. Wave 3 environment variables alone were used for the cross-sectional model. The supervision scales for Wave 1 and Wave 2 were averaged for the cumulative model. The aggression factor scores for Wave 1 and Wave 2 were averaged for the contemporary, cross-sectional, and cumulative models.

Each model was run using a series of steps:

Step 1: Ran the demographic variables against the dependent variable.

Step 2: Added the family environment variables.

Step 3: Added the violence measures.

First, the subject’s aggressive behavior score was entered into the model. Next, this was replaced by the PC reports of family violence. The PC reports were replaced by the subject reports of exposure to violence. Then the subject reports of ETV and aggressive behavior together were both entered. Finally, a full model was run with all variables.

Stata’s negative binomial regression produces an incident rate ratio (IRR) coefficient. The IRR indicates the expected change in the rate ratio of the dependent variable given a one unit increase in the independent variable while all other variables in the model are held constant.

² Overdispersion is when the unconditional variance of the count variable is larger than the mean (see <http://stata.com/support/faqs/stat/nbreg.html>)

³ Of those who reported their relationship status on the CTSP at Wave 3, 58.5% of the young adults were in a dating relationship, 9.9% were married, and 7.2% were engaged.

An IRR above 1.0 indicates a positive relationship and below 1.0 indicates a negative relationship.

Results

Although the original Wave 1 cohort 15 sample of 696 adolescents included half females and half males, the analysis sample had 178 females and 157 males, 53.1% and 46.9%, respectively. The data have information from 141 Hispanic adolescents (42.1%), 108 Black adolescents (32.2%), 45 White adolescents (13.4%), and 41 adolescents from other races (12.2%).

This project supported past research that found high rates of adolescent ETV, both within their homes and communities, both witnessed and experienced. For 98.2% of the subjects, either the subject or their caregiver reported an act of aggression witnessed or experienced in the past year across Waves 1 and 2 – 84.5% of the PCs and 92.5% of the subjects. Over these two waves, 13.7% of the subjects reported ETV that occurred in the home and 92.5% in the community; across all three waves, 18.2% of the subjects reported ETV in the home and 95.5% ETV in the community.

For the dependent variables, the young adults reported committing an average of 2.7 (s.d. 10.76) aggressive acts against their relationship partner in Wave 3, which was less than half of the PCs reports in Wave 1 of 6.1 (s.d. 20.09). The young adults also reported committing an average of 1.8 (s.d. 5.63) aggressive acts in their communities, which was only slightly less than their reports in Wave 2 of 1.9 (s.d. 4.76). Overall, 195 young adults (58.2%) reported committing no violent offending in Wave 3, 35 (10.5%) reported committing only relationship violence, 59 (17.6%) reported committing only community violence, and 46 (13.7%) reported committing both types of violence.

After all combinations were analyzed, the full model in each time period was the best model according to the log pseudo-likelihood. All full models with both aggression and the exposure to violence measures better fit the data than aggression or ETV as sole factors of either type of offending. The models showed that exposure to violence in adolescence can increase or decrease risk of committing violent offenses years later -- in-home ETV tended to be negative

Table 1. Items for Repeated Measures of Violence (in Past Year)

<i>PC-Partner Violence</i>	<i>Child-Directed Aggression^{1,2}</i>	<i>Self-Report of Offending^{1,2,3}</i>	<i>Exposure to Violence*</i>
<p>Psychological Severe:</p> <ul style="list-style-type: none"> • Threatened to hit or throw something at him/her^{1,3} • Thrown, smashed, hit, or kicked something¹ • Destroyed something belonging to your partner³ <p>Physical Minor:</p> <ul style="list-style-type: none"> • Thrown an object at your partner^{1,2,3} • Pushed, grabbed or shoved your partner^{1,2,3} • Slapped your partner^{1,2,3} • Physically twisted your partner's arm² • Shaken your partner² <p>Physical Severe:</p> <ul style="list-style-type: none"> • Kicked, bitten, or hit your partner with a fist^{1,2,3} • Hit or tried to hit your partner with something^{1,2,3} • Threatened/used a knife or gun on your partner^{1,2,3} • Beat him/her up^{1,2} • Choked him/her^{1,2} • Slammed against a wall³ • Physically forced sex² • Throw/tried to throw bodily² 	<p>Psychological Severe:</p> <ul style="list-style-type: none"> • Threatened to hit/ throw something at ***** • Thrown, smashed, hit or kicked something <p>Physical Minor:</p> <ul style="list-style-type: none"> • Throw something at ***** • Pushed, grabbed or shoved ***** • Slap or spank ***** <u>with an open palm</u> <p>Physical Severe:</p> <ul style="list-style-type: none"> • Kick, bite, or hit ***** <u>with a fist</u> • Hit or try to hit ***** <u>with something</u> • Beat ***** up • Burn or scald ***** 	<p>Home:</p> <ul style="list-style-type: none"> • Hit someone live with <p>Community:</p> <ul style="list-style-type: none"> • Carried hidden weapon • Hit someone not live with • Attack with weapon • Thrown objects at people • Been in gang fight 	<p>Experienced:</p> <ul style="list-style-type: none"> • Shoved/ kicked/punched¹ • Chased to hurt^{2,3} • Hit^{2,3} • Attacked with a weapon^{1,2,3} • Shot^{2,3} • Shot at^{1,2,3} • Threatened/seriously hurt^{2,3} • Sexually assaulted^{2,3} <p>Witnessed:</p> <ul style="list-style-type: none"> • Saw someone shoved/ kicked/punched¹ • Saw someone attacked with knife/weapon^{1,2,3} • Heard a gun shot/gunfire^{1,2,3} • Saw someone shot^{1,2,3} • Saw someone shot at^{2,3} • Saw someone chased to hurt^{2,3} • Saw someone hit^{2,3} • Saw someone threatened/hurt^{2,3} • Saw someone killed^{2,3}

¹ Asked in wave 1; ² asked in wave 2; ³ asked in wave 3; wording of some questions varied across waves

* Wave 1 SRO and ETV past year variables were created from the variables recording the number of times in the past year

and community ETV was positive, that ETV in the community and violent offending coincide, and that the effect of ETV on violent offending can fade over time. Results showed mixed support for social learning theory as an explanation of future violent offending and so the main hypothesis was only partially supported. Investigations of the correlates of offending need to consider both the individual's aggressive behavior and their ETV or the model could be misspecified.

Limitations

Results from the data are not generalizable beyond Chicago. Since over 90% of the PCs were female, sex-specific modeling could not be examined. The analyses assumed that PC reports of PC-partner violence represented in-home ETV for the adolescent but subject reports of in-home ETV were much lower. Intensions of the IPV acts and context of the situation are not captured by the CTS; unknown is whether reported acts initiated violence or were in self-defense. The differences in IPV offending reported by the females compared to their male counterparts does not account for either of these.

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Session II – Tracking and Coding Homicide

The Homicide Profiling Index Revised (HPI-R) to include Rape and Sexual Offenses

The Origin and Next Generation of Homicide Crime Scene Data Collection, Training Protocol, Evaluation and Implementation into Research Practice

C. Gabrielle Salfati

Jeffery R. Osborne

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The Homicide Profiling Index Revised to include Rape and Sexual Offenses (HPI-R[®], Salfati 2010) is a coding dictionary designed to be used as a tool for collecting data via police case files. This first presentation will introduce the HPI-R and discuss its development over the past 17 years, since its first version in 1994. This research tool has been revamped and several key changes have been made in order to stay up to date regarding the direction that homicide crime scene research has been heading in. The most notable change in the HPI-R is the addition of variables pertaining to live victims, including rape/sexual assault offenses. This is a direct response to the argument that an offender's series often includes multiple types of crimes, and each crime is of importance when conducting research and analyzing influences on offender behavioral consistency over a series (Salfati, 2008). The HPI-R contains over 300 variables and involves the scoring of pre-crime, crime, post-crime, offender background and victimology behaviors and characteristics. An overview of the HPI-R will be provided, and details regarding the types of variables and their scoring will be presented. In the second presentation, information will be provided regarding the inter-rater reliability testing of the HPI-R, as well as directions for homicide training programs in the future.

Using Crime Scene Data for Research

Offender profiling, or behavioral crime scene analysis, is the process of linking an offender's actions at the crime scene to their most likely characteristics to help police investigators narrow down and prioritize a pool of most likely suspects (Salfati, 2007). Along with the rise in popularity of crime scene profiling that occurred between the 1970s and the 1990s, and the growing concerns regarding its validity as a field, came an increased need to demonstrate its validity in identifying differences in types of crime scenes and the characteristics of the offender responsible for the crime (Salfati, 2011). As a result of this need, the field of investigative psychology emerged in the late 1980s and researchers began looking at how psychology may help in understanding the various inference processes used in offender profiling. Studies endeavored to distinguish between different types of criminals and the way they commit their crimes, in hopes that this greater understanding of criminal behavior as it applies to the crime scene could be used to substantiate the conclusions made in offender profiling.

Ultimately, the goal of this research is practical—to help identify the most likely offenders for further investigation by the police. But underpinning this applied work, are key theoretical and methodological issues. Salfati (2007) summarized the three interlinked areas that have been the focus of recent profiling research: individual differentiation, behavioral consistency, and inferences about offender characteristics. *Individual differentiation* aims to establish differences between the behavioral actions of offenders and uses this information to identify subgroups of crime scene types. *Behavioral consistency* is used for understanding both the development of an offender's criminal career and an individual's consistency across a series of crimes (e.g., whether the same subsets of actions are displayed at each crime scene over a series, linking serial crimes). *Drawing inferences about offender characteristics* uses consistency analysis as its main focus in establishing the link between subgroups of crime scene actions and subgroups of offender background characteristics to make predictions about an offender based on the offender's criminal actions at the crime scene. This can, in theory, be used by the police to narrow their suspect pool down to the most likely offender.

Salfati (2011) outlines that information contained in crime files, collected specifically for police investigations, is most often used in research linked to offender profiling and crime scene analysis. Information in police files can contain a wide variety of reports, as relevant to the specific case, including the original police report that was written by the responding officer(s), witness reports, suspect interviews, photographs, and information regarding the victim, as well as the medical examiner's report (in cases of violent crimes such as rape, assault, and homicide), and forensic reports (e.g., DNA testing, ballistics reports, blood spatter analysis, trace evidence analysis, etc.). Because this information was not gathered for the purpose of

scientific research, however, a number of methodological issues must be kept in mind when using such police files as a basis for research (see Salfati, 2011 for a review).

One of the key methodological issues of importance is how to translate the information in police files to information reliable for empirical and statistical analysis. Variables at this step need to be operationalized and a valid and reliable coding dictionary developed.

Salfati (2006) highlighted that there many approaches to collecting data. However many of the existing data collection tools that have been used to create the data sets on which studies have been based do not have clear definitions of what constitutes each of the items or variables contained within the tool. In an effort to rectify this methodological problem, a coding dictionary was developed in the mid-1990s (Salfati, 1994, 1998) which later formed the basis for the creation of the Homicide Profiling Index (HPI, Salfati, 2005). The details of the reliability analysis showing an 82-89% reliability rating was outlined at the 2005 Homicide Research Working Group annual meeting (see details in Salfati, 2006).

Further reliability tests were subsequently conducted between 2005-2009 showing similar results. Refinements were made to the original HPI relating to variable descriptions (HPIv3, Salfati, 2006), and the addition of further criminal history variables (HPIv4, Salfati, 2007). In 2010, the final version of the HPI, the Homicide Profiling Index Revised to include Rape and Sexual Offenses (HPI-R, Salfati, 2010) was developed. The current presentation provides details of the content of this coding dictionary.

The Homicide Profiling Index Revised to include Rape and Sexual Offenses (HPI-R)

The Homicide Profiling Index Revised to include Rape and Sexual Offenses (HPI-R) is the latest edition of the Homicide Profiling Index (HPI), which has been updated to fully allow for the inclusion of live victims, including assaults, attempted homicides, and sexual assaults and rape.

This revision reflects several key changes that have been made in order to stay up to date regarding the direction that homicide crime scene research has been heading in, which is a direct response to the argument that an offender's criminal career (or series, when looking at serial offenders) often includes multiple types of crimes, and each crime is of importance when conducting research and analyzing influences on offender behavioral consistency over a series (Salfati, 2008).

HPI-R Content

The HPI-R contains 312 variables, and includes 27 different subgroups of variables (see table 1) which can be divided into 6 general sections: 1) case file contents, 2) pre-crime behaviors, 3) crime scene behaviors, 4) post-crime behaviors, 5) victimology, and 6) offender background.

Table 1. HPI-R Variables Sections

Section Heading	Number of Variables
Case Identifier Variables	10
Timing Variables	9
Location Variables	14
Approach Method Variables	12
Geography Variables	11
Forensic Trace Evidence Variables	8
Theft Variables	3
Weapon Variables	5
Control Variables	5
Offender Motivation and Precipitating Factors Variables	2
Offender Verbal and Nonverbal Behavior Variables	28
Victim Resistance Variables	13
Offender-Victim Interaction Sequence	1
Offender-Victim Relationship Variables	3
Wounding—Type Variables	16
Wounding—Body Location Variables	12
Sexual Behavior Variables	24
Crime Completion Variables	6
Post-Mortem Activities Variables	15
Post-Crime Behavior Variables	8
Victimology Variables	28
Offender Background Variables	29
Prior Offense Supervision Variables	6
Prior Arrest/Conviction Variables	22
Case Summary	1
Appendix I: Case File Content Variables	21
Appendix II: Criminal History Timeline	N/A

HPI-R Scoring

The majority of the variables follow a dichotomous scoring scheme (i.e., 0 = absent, 1 = present). The HPI-R also contains categorical variables (e.g., type of strangulation, offender-victim relationship), measurement variables (e.g., weight of victim/offender, distance between offender's resident and crime scene), and descriptor variables (i.e., coders write detailed descriptions of certain crime scene behaviors).

In addition to the 0/1, categorical, measurement and descriptor scores, there are 3 other coding options. A score of 999 indicates that information is not present in the case file. During training it is stressed that missing information is not equal to an absence of behavior. For example, if a case file does not contain any relevant information pertaining to theft, all relating variables receive a score of 999 rather than 0. A score of 888 is used when the case file contains unclear, ambiguous, or inconsistent information. Lastly, a score of 777 is used when the variable does not pertain to the type of offense that is being coded. For example, if a coder is using the HPI-R for a rape case, all variables pertaining to post-mortem behaviors would be scored as 777.

HPI-R Reliability & Training

Continuous evaluation of coders using the HPI as part of research within the Investigative Psychology Research Unit at John Jay College of Criminal Justice (Salfati, 2003-2011) has shown that there is a real need for training when dealing with coding from police files. The training protocol for the HPI-R therefore specifically includes a training program that includes a three-phase process. Details of this training, including details of the research regarding coding reliability which provides the need for this training, is outlined in the second part of this presentation.

HPI-R Training

Phase-I

The training protocol for the HPI-R implements a three-phase process. Prior to introducing new coders to the HPI-R, an overview of real-world data collection techniques and empirical offender profiling methodology is provided. This is to help acclimate new coders to the importance of acquiring reliable data, as well as to stress the seriousness and extreme nature of the information that may be found in the police case files.

Phase-II

Coders are fully briefed on the contents of the HPI-R and how to properly use all of the coding materials.

As part of the training, coders then partake in an inter-rater reliability (IRR) testing training component of the training. This part of the training aims to introduce coders to using the HPI-R on police files not originally designed for research (i.e., introducing them to the methodological issues of real-world research), as well as to highlight important issues that coders need to be made aware of to increase the reliability of coding.

A minimum of 3 coders (per group) is required for the HPI-R IRR protocol. Additionally, a minimum of 3 cases is required for each IRR phase. Each new coder uses the HPI-R to score 3 cases individually. During this phase, coders are not permitted to discuss the cases with one another to ensure that the IRR results are not affected.

After the coders have completed scoring the cases in Phase II, they are required to meet as a group, and 1) calculate the IRR agreement score (total number of variables with agreed upon coding divided by the total number of variables, descriptor variables are not included in this calculation), and 2) discuss and record possible reasons, according to guidelines given, as to why the discrepancies exist (e.g., human error, the variable definition is unclear, the case file was unclear, etc.).

A meeting is then held to review the IRR results and to allow the coders to ask questions. Furthermore, any particular sections or variables that coders had specific difficulties with are re-discussed and explained. A record of all of these questions are kept for further review in terms of the HPI-R itself, to note if specific questions or sections consistently cause issues with coders, which highlights any clarifying revisions that need to be made to the coding tool itself. The meeting overall is designed to address all issues that new coders may have come across during the first phase of the IRR procedure and to provide them with instructions for Phase III of the training process.

Phase-III

Phase III is essentially identical to Phase II: the only difference is that a new set of cases are coded. Another meeting is then held to review all coding issues from Phase III, and scores from each phase are compared to one another in order to assess the improvement rates of coding.

Results of HPI-R Inter-rater Reliability Tests

The following section provides a review of the results observed during the training phase, and outlines key issues.

To date, four groups with a total of 14 coders have received HPI-R training. A total of 26 cases having been scored using the HPI-R for IRR purposes. One group of 4 coders scored 8 rape cases, and 2 groups of 3 coders and 1 group of 4 coders scored 18 homicide cases.

Based on IRR scores, training significantly improves coder reliability between Phase II and Phase III of the IRR process.

Further analysis of the IRR scores show that overall IRR scores were lower than individual case-specific IRR scores. This indicates that human error was the primary reason for scoring disagreements. If overall scores were similar to individual case scores, it would suggest that the same variables were difficult to score and therefore the cause of the disagreements would have been HPI-R variable definitions. However, different cases had different sets of “trouble variables,” suggesting that some cases were more difficult to code when compared to others. This hypothesis was supported by coder feedback during the Phase-III meeting which showed that the bulk of the disagreements were a result of human error, rather than not understanding HPI-R variable definitions.

In terms of observation of coder progress throughout the coding training, a “coder learning curve” was also observed. During the Phase II meeting, coders generally asked broad questions regarding the HPI-R and most of the time was spent reviewing sections of variables. However, during the Phase III meeting, questions tended to focus less on the HPI-R and more on specific case file issues. Additionally, coders indicated having more confidence in their coding compared to Phase-I. The most common issue voiced by new coders was the time it took to score a case. However, by the end of Phase III, coders were much more familiar with the structure and content of the HPI-R and had developed coding strategies that not only made them more efficient, but also more reliable.

After reviewing the differences in IRR scores and the number of various types of coding disagreements, it is theorized that factors such as coder motivation, coder time management skills, and background experience in empirical offender profiling research have an influence on coding performance.

Conclusion & Discussion

Overall, based on the first sample of HPI-R testing, the new coding dictionary contains clear, dependable definitions and the training protocol appreciably improves coder reliability.

Results also highlight the importance of training, and outlines the specific errors that coders making during the coding process.

Future avenues for HPI-R training and delivery will be further explored and discussed, including the creation of a certification course and the creation of an electronic version of the instrument to be used on smart phones, PDAs and iPads.

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Biographies

C. Gabrielle Salfati, MSc PhD CPsychol F.IA-IP

C. Gabrielle Salfati is currently Professor of Psychology at John Jay College of Criminal Justice where she directs the Investigative Psychology Research Unit (IPRU). She is part of the first group of people who emerged within the new field of Investigative Psychology, and was instrumental in its development as an international research field on the empirical analysis of violent criminal behaviour, in particular the establishment of empirical methods in the field of offender profiling. Her main areas of expertise relate to the methodology of research in offender profiling and linking serial crimes, specifically with a focus on homicide and violent sexual crimes. This work is being developed within an international framework through collaboration with major research centers and law enforcement agencies internationally. As part of this work, she has aimed to provide a reliably sound data collection tool for use with crime scene analysis work, started in 1994, and which has culminated in the HPI-R in 2010. She has presented and published widely both nationally and internationally on her work, and provides training to law enforcement and crime analysts internationally, as well as researchers involved in crime scene analysis work. For more information see web.jjay.cuny.edu/~gsalfati

Jeffrey Osborne, MA

Jeffery R. Osborne became a member of the IPRU in February 2008. While a master's student in the John Jay College Forensic Psychology Program, he joined the IPRU coding team as a Research Assistant, and was later appointed as HPI-R Project Coordinator. In August 2011 he will begin his PhD program in John Jay College's Criminal Justice Department.

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Several cohorts of graduate students have partaken in continuous inter-rater reliability studies over the years as part of their training and research within the Investigative Psychology Research Unit (IPRU) at John Jay College of Criminal Justice. Results from these studies, as well as feedback from research students has been invaluable in the development of the HPI over the years, and the author would like acknowledge and thank the vast number of people involved in this work over the years. Specific thanks go to Amber Horning and Marina Sorochinski for their input on the development of the HPIv4 and Jeffery Osborne and Andrea Brannen for their input on the development of the HPI-R.

The IPRU team would also like to express their gratitude to all the law enforcement agencies who contributed through access to the data used to in the development and testing of the HPI between 1994-2010.

Role of Forensic Evidence in Homicide Investigations

Tom McEwen

I have collected data on homicides from Phoenix, Arizona; San Diego, California; and Denver, Colorado with an emphasis on forensic evidence obtained and analyzed during investigations. In the presentation, results from all three sites will be presented. In preparation for the discussion, this summary will provide a few basic results from Phoenix, Arizona.

The analysis from Phoenix, Arizona is based on 404 cases with 435 victims. While forensic evidence was collected in virtually every case, the types of evidence varied considerably:

- 46.2 % had biological evidence (swabs of blood and buccal swabs)
- 31.3 % had latent print evidence (including full fingerprints in a few cases)
- 65.1 % had weapons evidence (firearms, knives, spent projectiles, GSR, etc.)
- 22.8 % had drug evidence (including drug paraphernalia)
- 80.2 % had other evidence (usually clothing, but also trace, other impressions)

From an analysis viewpoint, I found it important to determine the *number* of items in each category, rather than treating categories as dichotomous variables (e.g., biological evidence was/was not collected). Moreover, I found it important to include only the number of items found to provide probative evidence by the crime lab. By probative, I mean that the analysis established a fact, such as a match between the fingerprints of a suspect and latent prints found at the scene. On the other hand, an item is not probative if, for example, the latent print is smeared (therefore cannot be used). The basic hypothesis is that the likelihood of closure increases with the volume of probative evidence. (Of course, it also depends on a lot of other factors, as discussed later). The drawback in using probative evidence is that the analysis by the crime lab occurs after arrest in many cases. Details on this will be discuss in the presentation.

The clearance rate for the 435 homicides was 57.0 percent (using a follow-up period of at least 18 months for all homicides). This clearance rate is considerably lower than other cities with similar populations. Since the study, the clearance rate has steadily increased.

Table 1 shows the results of a logistic regression comparing open and closed cases using the number of probative items of forensic evidence and several explanatory variables. Exceptional clearances were not included in this analysis because they have very different characteristics than clearances by arrest.

Table 1. Logistic Regression Comparing Open and Closed Cases (by arrest)

Variable	Coefficient	Odds Ratio	Sig.
Male	-0.49	0.61	.20
Hispanic	-0.75	0.47	.005***
Age	0.01	1.01	.57
Expressive homicide	0.78	2.17	.004***
Indoors	0.57	1.75	.03**
Victim transported	0.69	2.00	.008***
Number of investigators	0.14	1.15	.048**
Number of patrol officers	-0.05	0.95	.14
Number of witnesses	0.09	1.09	.02**
Total biological probative	0.25	1.29	.001***
Total latent print probative	-0.03	0.97	.21
Total weapons probative	0.21	1.24	.001***
Total drug probative	0.15	1.17	.38
Constant	-3.00	0.05	.001***

*** p < .01; ** p < .05 * p < .10

With regard to significant variables, the regression shows that cases with Hispanic victims were less likely to be closed, and expressive homicides and homicides occurring indoors are more likely to be closed. It also shows that the likelihood of closure increases with the number of investigators and the number of witnesses. With regard to forensic evidence, closure was more likely as the number of probative biological items and weapons items increases. However, it also shows that the number of probative items from latent prints and drug evidence are not significant.

While collecting the data for this study, I found it beneficial to divide arrests into three categories—immediate arrests, quick action arrests, and whodunits—roughly based on the level of investigative effort. These groups are an extension of the research by others in their attempts to classify cases into investigative types.⁴ For this study, an *immediate arrest* (n=60) is a case in

⁴ See Innes, M. (2003). *Investigating murder: Detective work and the police response to criminal homicide*. New York, NY: Oxford University Press, Inc. and Puckett, J.L. & Lundman, R.J. (2003). Factors affecting homicide clearances: Multivariate analysis of a more complete conceptual framework. *Journal of Research in Crime and Delinquency*, 40, 171-193.

which arrest of a suspect is made at the scene either by responding patrol officers or investigators after preliminary investigations (other researchers refer to these cases as *self-solvers*). A *quick action* case (n=49) is one in which a suspect is not immediately known, but quick action on the part of officers and investigators results in the identification and arrest of a suspect in a relatively short period of time, usually from a few hours to a few days. Finally, a *whodunit* case (n=47) is one that requires a consider amount of investigative effort over several weeks or months before an arrest is made.

Table 2 on the following page gives the results of a multinomial regression with open cases as the reference category. Key results from the regression are:

- Immediate arrest cases (compared to open cases) are:
 - Less likely to have Hispanic victims
 - More likely to be expressive homicides
 - More likely to have occurred indoors
 - Less likely the victim was transported
 - More likely to have witnesses
 - More likely to have probative biological and weapons evidence
 - Less likely to have probative latent print evidence
- Quick action arrests (compared to open cases) are:
 - More likely to be expressive homicides
 - Less likely the victim was transported
 - Likely to have more investigators
 - More likely to have probative biological and weapons evidence
- Whodunits (compared to open cases) are:
 - Less likely to be male
 - Less likely to be Hispanic
 - Likely to have more investigators and witnesses
 - More likely to have probative biological, weapons, and drug evidence

In addition to these results, the presentation will discuss how the analysis of forensic evidence assists in prosecutions.

Table 2. Multinomial Regression Comparing Open and Closed Cases (by arrest)

Variable	Immediate Arrests			Quick Action Arrests			Whodunits		
	Coefficient	Odds	Sig.	Coefficient	Odds	Sig.	Coefficient	Odds	Sig.
Male	-0.08	0.93	.88	-0.56	0.57	.33	-1.29	0.73	.06*
Hispanic	-0.89	0.41	.016**	-0.49	0.61	.23	-0.64	0.90	.10*
Age	0.01	1.01	.66	0.05	1.01	.72	0.01	1.01	.36
Expressive homicide	2.09	8.01	.001**	0.81	2.24	.05*	0.10	1.11	.78
Indoors	1.35	3.87	.001**	0.44	1.55	.27	0.28	1.32	.50
Victim transported	-1.12	0.33	.003**	-1.07	0.34	.01***	0.04	1.04	.93
Number of investigators	-0.01	1.00	.98	0.19	1.21	.046**	0.18	1.20	.06*
Number of patrol officers	0.01	1.00	.98	0.01	1.01	.84	-0.17	0.84	.002**
Number of witnesses	0.12	1.12	.02**	0.07	1.07	.20	0.11	1.11	.05**
Total biological probative	0.27	1.30	.001**	0.29	1.34	.001**	0.24	1.27	.001**
Total latent print probative	-0.11	0.89	.03**	-0.01	0.99	.83	-0.03	0.97	.36
Total weapons probative	0.24	1.27	.001**	0.23	1.26	.001**	0.19	1.21	.02**
Total drug probative	0.17	1.18	.43	-0.08	0.92	.70	0.35	1.42	.06*
Constant	-2.61	N/A	.002**	-3.96	N/A	.001**	-4.47	N/A	.000**

*** p < .01; ** p < .05 * p < .10

Session III – Potpourri I

Matricide: Victims, Offenders, and Circumstances

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INTRODUCTION

The term used in criminology to describe the killing of one's parents is parricide. Matricide is a form of parricide that refers to the killing of one's mother, whereas, patricide involves the killing of one's father. Both forms of parricide are extremely rare events in the United States as well as the rest of the world. It comprises less than 2% of the homicides committed in the United States. "National studies indicated that on the average, approximately 250 parents are killed by their children in the United States each year" (Heide and Frei 2010:13). In Canada, 7% of all homicides are parricides, with matricide being the most common (Bourget, Gagne, and Labelle 2007). There has been a decline over time in the rate of parricides that have been committed by males and females; although the decline in the female rate has been significantly less than the male rate of decline (Walsh, Krienert, and Crowder 2008).

There is little empirical research that has been completed on matricides. The intent of this study is to expand the current research that is available on matricide by looking at matricide from a race-based standpoint for the purpose of identifying and analyzing the characteristics of the victim, offenders, and circumstances surrounding matricides. It will draw attention to matricide and enable further research.

LITERATURE REVIEW

Studies have shown that the closer the relationship between the victim and offender, the more intense the conflict that arises and results in homicide (Humphrey and Palmer 1987). In the majority of matricides, the offender is living with the parent at the time of the murder (Campion, Cravens, Rotholc, Weinstein, Covan, and Alpert. 1985; Chiswick 1981). Bourget et al. (2007) theorized that “geographical proximity may have been a risk factor in those cases that involved a dispute or strained familial context” (309).

Previous studies on matricide have found many similarities among the type of weapon used and offender and victim demographics. Studies on adult offenders have found that the majority tend to use blunt instruments or knives (Bourget et al. 2007; d’Orban and O’Connor. 1989). When the offender is an adolescent, it has been found that a firearm will most likely be used (Heide 1993; Holcomb 2000; Walsh et al. 2008). The majority of matricides are committed by males and the majority of the victims are white (Bourget et al. 2007; d’Orban et al. 1989; Heide 1993; Heide et al. 2010; Heide and Petee 2007a; Walsh et al. 2008). The mean victim ages range from 40 – 50 years old (Bourget et al. 2007; Heide et al. 2007a; Chiswick 1981). The mean ages of the offenders are between 30 – 40 years old (Bourget et al. 2007; d’Orban et al. 1989; Heide 1993; Heide et al. 2010; Marleau, Auclair, and Millaud 2006).

There are two main hypotheses this study will focus on. The first hypothesis states that there will be demographic differences between offenders and victims based on the race of the victim. The second hypothesis states that there will be different

contributing factors surrounding the circumstances of the crime based on the race of the victim.

METHODOLOGY

Data for use in this study originated from the California Homicide Data File, which contains all homicides reported to the Criminal Justice Statistics Center, California Department of Justice for the years 1987 through 2008. This study contains a total of 388 matricide cases. The dependent variable is the race of the victim. Race has been collapsed into two categories, white and nonwhite, with nonwhite as the reference category. The independent variables are victim age, offender age, offender gender, weapon used, location of the crime, and precipitating event.

The first form of analysis ran was the frequency of each variable. Chi-square was then performed to determine if there is a relationship between the independent variables and the dependent variable of victim's race. Last, logistic regression was then run to identify which victim, offender, and incident based variables are statistically significant enough to be used as a reliable predictor variable according to the dependent variable of race.

RESULTS

This study found that the majority of victims were white and between the ages of 33 to 96 years old with a mean age of 62.3. Males comprised 80% of matricide offenders with an age range of 13 to 83 years old and a mean age of 34.6 years old. The most frequent precipitating event leading to the matricides involved in this study was arguments (53.6%). The majority of weapons were knives and blunt instruments

(40.9%). Shared residence was found to be the location where the majority of matricides occurred (52.6%). The frequency of matricide occurrence was highest in the southern counties (59.7%).

Chi-square analysis showed that nonwhite victims between the ages of 30 – 39 (8.9%) and 40 – 49 (28.1%) were significantly more likely than white victims of the same age to be murdered by their children. Offenders' age and the race of the victim showed that among the age ranges of 10 – 19 and 20 – 29, there were a higher percentage of nonwhite offenders. Whites (31.3%) were more likely than nonwhites (15.2%) to fall victim when nonfelony events, such as mercy killings or suicide pacts, were involved. When race was compared between counties, whites were killed with the greatest frequency in all regions except for southern California counties.

With regards to logistic regression, offender's age showed significance ($p = .029$). For every one unit increase in the offender's age, there is a .974 decrease in the odds of the victim being nonwhite. Victim's age approached significance at $p = .053$. The odds of a victim being nonwhite decreases by .981 for every one unit increase in the victim's age.

Logistic regression showed that overall the precipitating event showed significance at a $p = .004$. The individual precipitating event that showed significance was nonfelony at $p = .001$. Using "other" precipitating events as a reference, nonfelony events decreased the odds of the victim being nonwhite by .250. County was found to be approaching significance at $p = .061$. The superior counties did show an individual significance of $p = .016$. With the southern counties as a reference, there is .077 decrease

in the odds of a victim being nonwhite in the superior county. The superior counties are the counties in California located in the northern portion of the state.

DISCUSSION AND CONCLUSION

This study first looked at the frequencies involved with each demographic variable, namely, victim race, offender age, victim age, and offender gender. The frequencies agreed with the previous studies involving matricides. Victim age showed a significant association with the race of the victim when run in chi-square analysis. This analysis illustrated that nonwhite victims were more likely than white victims to be murdered between the ages of 30 – 59. White victims were more likely to be murdered after the age of 60. Logistic regression determined that there was .981 decrease in the likelihood that a victim would be nonwhite with every one unit increase in age.

Offender age also showed a statistically significant association with the race of the victim. Nonwhite offenders were more likely to be younger than white offenders when it came to race of the victim. Nonwhite offenders between the ages of 10 – 29 were more likely than white offenders in the same age range to commit matricide. Logistic regression supported this finding with a significance level of $p < .029$. A one unit increase in the age of the offender showed a .974 decrease in the likelihood of a victim being nonwhite. Based on these findings, I reject the first null hypothesis that there are no differences between the demographic variables based on the victim's race.

The frequencies involving precipitating events is in agreement with the d'Orban et al. study in 1989 and the Heide et al. study in 2007a, who also found that arguments precipitated most matricides. Chi-square analysis of precipitating events showed a

statistically significant association between the event and the race of victim. Whereas nonwhites were shown to fall victim following arguments, whites were shown to be victims of nonfelony events. Logistic regression found that the precipitating event was a good predictor of whether the victim would be white or nonwhite. When compared with the reference category of other, nonfelony decreased the odds of the victim being nonwhite by .250.

The last variable that was analyzed was the region of California in which the matricide occurred. Chi-square analysis showed a statistically significant association between county and race. It was found that the majority of nonwhites are killed in the southern counties. When logistic regression was run, overall the county regions did not show any significance. However, the superior counties showed a significance level of $p < .016$. When compared with southern counties, there is a .077 decrease in the odds of the victim being nonwhite in superior counties. Based on these findings, the null hypothesis that no incident characteristics will vary according to race of the victim in rejected.

Although matricide is a very rare event in the United States, studying this type of homicide, makes it possible to determine if there are certain demographic and incident characteristics that make this type of homicide different from other types of homicide. Research in this field has the potential to advance the knowledge of criminologists with regards to the causes of matricide using quantitative variable distinctions to explain this type of crime. There are many areas that could be explored with regards to matricides. Future research could compare patricides to matricides to determine if there are any differences among the individuals who commit the crime and the characteristics that

surround the crime. Matricides could also be studied regionally to determine if there are any variations according to the region of the country. Lastly, instead of using data from only one state, as this study did, future studies could use national data to determine if different results would be found.

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Murder in Black: A Media Distortion Analysis of Homicides in Baltimore

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Crime has been a staple in modern day media since as early as the 1800s (Surette 1998), and is featured on television news, is splashed across front-page headlines in the daily newspaper, and appears online at the click of a mouse. As the media evolved, so too has the way in which crime is reported. In the late 1800s, specialized columns and police beat reporters were introduced to feed a growing interest in crime-related stories. A study by Maguire, Sandage, and Weatherby (1999) found that across news media in more modern times, crime and violence account for up to 50% of coverage.

Researching how crime is portrayed in the media is important due to the effect such reporting has on society. The manner in which crime is portrayed in the media influences public opinion, and subsequently public opinion influences public policy with respect to crime and criminals. Recent studies have focused on identifying different factors that can lead to a crime story's newsworthiness in the media. Some studies have examined the characteristics such as gender and race of homicide victims and offenders in news stories to see if these characteristics influence newsworthiness (see Gruenewald, Pizarro, and Chermak 2009; Johnstone, Hawkins, and Michener 1994; Paulsen 2003; Sorensen, Manz, and Berk 1998). This form of research has been termed "media

distortion analysis” by Gruenewald et. al. (2009:264). A media distortion analysis is focused on the variables that determine which stories receive media coverage and which do not (Gruenewald et. al. 2009).

Homicides will likely be considered newsworthy when they are unusual or contain elements that are out of the ordinary (Gruenewald et. al. 2009; Meyers 1997). In many urban areas, victims of homicide are disproportionately African American (Meyers 1997). As such, many journalists may not consider these victims to be especially newsworthy, though some will receive coverage (Pritchard 1985). Other studies suggest that elements such as the involvement of White victims (e.g. Johnstone et. al. 1994; Lundman 2003; Paulsen 2003; Pritchard and Hughes 1997; Sorensen et. al. 1998), vulnerable victims (e.g. Johnstone et. al. 1994; Paulsen 2003; Pritchard and Hughes 1997; Sorensen et. al. 1998), multiple victims (e.g. Johnstone et. al. 1994; Paulsen 2003; Sorensen et. al. 1998), and whether the murder occurs in a wealthier neighborhood (e.g. Johnstone et. al. 1994; Paulsen 2003; Sorensen et. al. 1998) influence the assessed newsworthiness of a particular killing. Pritchard and Hughes (1997) also suggest that crimes involving a violation of cultural norms, such as the killing of an elderly person or a child, would also be viewed as more newsworthy.

The present study examines news reporting in *The Baltimore Sun* of homicides that occurred in Baltimore, Maryland between January 1 and December 31, 2010 to determine the factors which contribute to a higher article count by victim, and in turn, more newsworthiness for certain victims. This study is unique because unlike previous research, a large majority of the homicide victims (83%) are black males; meaning characteristics of newsworthiness found to be significant in previous studies (e.g.

Johnstone et. al. 1994 or Paulsen 2003), such as being White, no longer apply.

Newsworthiness can be measured among a bevy of factors, such as total word count allocated to a victim, or as in the case of the present study, the number of articles published on each case. Because of this, other factors that influence newsworthiness are explored to determine if the same effects are found on homogeneous populations of homicide victims as with heterogeneous populations.

METHODS AND DATA

The data were compiled using *The Baltimore Sun's* online crime map. *The Baltimore Sun* was selected, as it is the main newspaper for the region. To access these data a search was conducted for all homicides occurring in the year 2010. There were 223 murders found and the results were indicated with pins on an interactive map of Baltimore. Each of the markers was then visited and all of the relevant information on the homicide was compiled, including the victim's name, age, gender, and race, as well as the date the body was discovered and the cause of death (shooting, stabbing, asphyxiation, blunt force, or other).

After data on the demographic characteristics of victims were recorded, *The Baltimore Sun's* online newspaper archive was searched for each victim's name. The victim's name was selected as the searchable variable as it is independent and individual to each case. Article attributes such as the date of publication, section of publication, page number of print, and article word count were also recorded. Victims who had multiple articles published about them were also noted. Opinion publications such as

editorials and obituaries were omitted from the set of articles as were any articles published more than 60 days after the date the body was discovered.

RESULTS

The victims were disproportionately male (91.5%) and had a mean age of 31.02 years. Shooting was found to be the most prevalent cause of death (77.1%). The mean of the variable for celebrated coverage indicates that approximately 26% of the victims in the dataset received coverage in the paper within the first three pages. The mean for the dependent variable, number of articles by victim, shows that each victim received coverage in 1.1 articles on average.

Table 1. OLS Multiple Regression Results for Age, Gender, Celebrated Coverage, and Homicide Type by Number of Articles for Homicide Victims

<i>Variables</i>	<i>Number of Articles</i>
Victim Age	.008 / .060 (.009)
Victim Gender	-.138 / -.021 (.412)
Celebrated Coverage	1.601 / .387** (.257)
Homicide Type (Firearms)	-.368 / -.085 (.276)
Intercept	0.729
Adjusted R Square	.157
N	223

* $p < .05$, ** $p < .01$

Results reported as unstandardized coefficients / standardized Beta with standard error in parentheses.

Table 1 illustrates the effects of age and gender of the victim, as well as whether the victim received celebrated coverage (within the first three pages) and the type of

homicide on the number of articles published on the victims. Overall the model indicates that only celebrated coverage has a significant effect on the number of articles by victim

DISCUSSION

“If it bleeds, it leads.” This idea has seemingly become the cornerstone concept for modern news journalists. However, in a city such as Baltimore where homicide has seemingly become routine, this rule is no longer applicable without modification. In order for a paper to decide which of the 223 murders over a one-year period should be reported or even make headline news, there has to be a determination of whether or not a story is newsworthy, and by association, whether or not the story of a given victim is worthy of being reported. The present study shows that newsworthiness is not necessarily based on a victim’s age or race or gender as the sample group share overwhelmingly similar demographic characteristics specific to certain cities. A model focused on socio-demographic factors can prove useful in understanding newsworthiness in cities or localities that have victims of a range of backgrounds (such as Houston, the basis for Paulsen’s 2003 study). However, in a city such as Baltimore where the victims are overwhelmingly one race and one gender, such a model will not be useful. What makes a victim worthy or unworthy is ultimately determined by the nuances surrounding their death.

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Current Issues in the Use of Criminal Investigative Analysis: Preliminary Findings

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Abstract

State, local, and federal law enforcement agencies often request assistance with homicide investigations and other violent crimes. Some have attributed the apparent growing popularity of one type of this assistance, known as Criminal Investigative Analysis (CIA), largely, to its overwhelming exposure in the media. Yet some have challenged its efficacy (McCann, 1992; Muller, 2000). Criminal profiling, the precursor to criminal investigative analysis has historically been used, at least in part, to provide information about the behavior of an unknown offender with the goal of narrowing down a suspect pool (i.e., Douglas & Burgess, 1986). However, the actual methods and products resulting from such efforts remain largely unknown and inconsistent. The literature is virtually quiet on the issue of what skills or specialized abilities are essential to practicing successful criminal investigative analysis. In this vein, some disagreements in the required skills to profiling have emerged (Bennell, Corey, Taylor, & Ecker, 2008; Kocsis, 2003; Kocsis, Irwin, & Hayes, 2002; Kocsis, Irwin, Hayes, & Nunn, 2000). However, debates remain as to the process and definition of criminal investigative analysis, consistency of methods employed, eligibility to testify in court, as well as the critical qualifications required of those who are deemed suitable to practice such analyses. The current research reports preliminary results of a study designed to examine these issues by capturing insights from those who are either currently employed or recently retired from professional positions devoted to this type of work.

Session IV – Elderly Homicide

Patterns of Elderly Homicide Overtime (1985-2009) and by Race/Ethnicity

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ABSTRACT

In this report we assess total and race/ethnicity disaggregated patterns in elderly homicide (age 55-74) for two cross-sectional periods (1985-1999 and 2000-2009), both alone and compared to younger age groups. To do this, we use California arrest statistics that provide annual homicide figures by race and ethnicity (including a Hispanic identifier) and by age. Major aims of our analysis are to establish whether (1) elderly homicide rates are different/similar across race/ethnic comparisons; (2) whether elderly rates have declined or remained stable since the mid-1980s across total and race/ethnicity comparisons; and (3) whether, relative to other age groupings, the proportionate homicide involvement of the elderly across these comparisons is similar or different now as compared to 20-30 years ago. Our analysis is important and timely because some commentators have suggested that elderly homicide levels have been rising over the past 1-2 decades and because there is a virtual absence of research of any sort on elderly homicide trends that involve comparisons by race and ethnicity. The lack of race/ethnicity comparisons is especially unfortunate in light of the growing racial and ethnic diversity in the United States, most notably the dramatic growth in Asian and Hispanic populations.

INTRODUCTION

The aging or “graying” of the US population in recent decades has garnered substantial attention among scholars interested in the societal impact and social consequences of an aging American population. This has resulted in a sizable body of research investigating how rapid growth in the US elder population has shaped healthcare, family, politics, labor and work, the economy, and other prominent social institutions (e.g., Cutler and Hendricks 2006; O’Rand 2001). However, in contrast to other substantive areas, scholarly interest in older populations has been largely absent among studies of crime and violence.

Although age and aging have played central roles in criminological research and theory, attention to age-crime relationships is typically oriented toward youth and the crime-prone ages (e.g., 15-24) (see Britt 1992; Farrington 1986; Greenberg 1985; Laub and Sampson 2003; Lauritsen 1998; Quetelet 1984[1843]; Steffensmeier, et al. 1989; Steffensmeier and Allan 2001; Tittle and Grasmick 1998). Research assessing age effects on crime and violence has focused on issues such as (1) age trajectories in offending (e.g., adolescent-limited versus persistent offenders; early versus late onset) (Moffit 1993), (2) the ways that age shapes entrance into crime and desistance from offending (D'Unger et al. 1998; Lipsey and Derzon 1998; Maruna 2000; Steffensmeier and Ulmer 2005), and (3) assessment of age-crime distributions in offending across populations, offenses, places, and time periods (Steffensmeier et al. 1989). However, these analyses of age and crime have largely centered on offending among younger populations with little attention paid to crime or homicide among *older or elderly* population groups, particularly within the context of comparisons across race/ethnic populations. Thus, as we describe below, one main goal of the current study is to address this gap in research by providing one of the first empirical analyses of race/ethnic-specific patterns and recent trends in homicide offending among older populations.

PRIOR RESEARCH

There is a near absence of empirical research that has systematically assessed the patterns and temporal shifts in violent offending among older US populations. Two previous studies, Steffensmeier (1987), and Feldmeyer and Steffensmeier (2007) have particularly motivated our study. Steffensmeier (1987) used national UCR arrest statistics to examine gender-specific trends in elderly offending (including homicide) for the 1964-1984 period. Results indicated that the proportionate criminal involvement of the elderly was about the same in 1984 compared to two decades earlier, with small declines in the elderly share of homicide and other serious violent offenses. Additionally, findings showed that elderly offending was concentrated primarily among alcohol offenses. Feldmeyer and Steffensmeier (2007) provided a time series analysis of violent and property crime offending trends among elder populations compared to younger ages for the more contemporary 1980-2004 period. Similar to Steffensmeier (1987), they found that elderly homicide and serious violent offending showed stable or declining trends during the 1980-2004 period and that elder crime continued to be focused among alcohol related offenses. Notably as well, no studies to our knowledge have examined patterns in elder homicide offending across race and ethnicity.

The current project extends the earlier analyses of Steffensmeier (1987) and Feldmeyer and Steffensmeier (2007) by focusing in particular on patterns and trends in elderly homicide across race/ethnic groups. Specifically, we use 1985-2009 California data on homicide arrests disaggregated by age and race/ethnicity (White, Hispanic, Black, Native American, and Asian) to examine whether (1) elderly homicide rates are

different/similar across race/ethnic comparisons; (2) whether elderly rates have declined or remained stable since the mid-1980s across total and race/ethnic comparisons; (3) whether, relative to other age groupings, the proportionate homicide involvement of the elderly across these comparisons is similar or different now as compared to 20-30 years ago.

DATA AND ANALYTIC PROCEDURES

Data on homicide offending disaggregated by age, race/ethnicity, and year are drawn from arrest statistics compiled by the California Uniform Crime Reporting program (hereafter, CAL) for the 1985-2009 period. These data are well-suited for the current study because they overcome a major shortcoming of annual arrest statistics published in FBI's Uniform Crime Reports and other commonly-used crime databases – namely, the lack of an Hispanic identifier for coding the arrestee's race or race/ethnicity. Instead, Hispanic arrests in these databases are counted as “White” (about 94%) or as representing one of the other racial categories. In contrast, the CAL data include an Hispanic identifier (ethnicity) as well as a coding for the arrestee's race (White, Black, Asian, Native American). The CAL data also code the arrestee's age in individual years as compared to 5-year age groupings in the UCR. Together, the race/ethnicity and age categories in CAL are advantageous as compared to those available in the UCR because the breakdowns (1) provide information on Hispanic homicide offending, (2) provide “clean” counts of homicide arrests for Whites, Blacks, and other race groups that are not confounded with Hispanic figures (see Steffensmeier et al. 2010; 2011), and (3) allow analysis of homicide patterns both by race/ethnicity and across the full life span, rather than the standard “juvenile” versus “adult” categories for each race/ethnic group available in UCR tables. As we describe below, the refined age-by-race categories in CAL are especially useful for creation of *Proportionate Age Involvement* measures that can be used to assess the share of elderly homicide offending relative to younger ages for each of the race/ethnic subgroups.

Our analysis uses several techniques to assess elderly patterns and trends in homicide. First, for the full 1985-2009 period, we calculate yearly *age-specific homicide arrest rates* (using 5-year age categories) for the total population and each race/ethnic group (White, Black, Native American, Asian, and Hispanic). The procedure for computing these population adjusted rates is adapted from the 1969 *Report of the National Commission and the Causes of Violence* and is described in further detail in prior studies (see O'Brien 1999; Steffensmeier and Harer 1999). Homicide arrest rates for these 5-year categories are then combined and averaged into 3 larger age-groupings covering a twenty-year life span for each race/ethnic group and for two overall time periods (1985-1999, 2000-2009): (1) *elderly* homicide rates (average of arrest rates for age groups 55-59, 60-64, 65-69, and 70-74), (2) *middle age* rates (average of rates for 35-

39, 40-44, 45-49, and 50-54), and (3) *young adult* rates (average of rates for 15-19, 20-24, 25-29, and 30-34)

Second, we use these age-based rates to calculate yearly the *Proportionate Age Involvement* (PAI) for each race/ethnic group as a measure of the elderly share of homicide arrests relative to younger ages. For each offense, the PAI indicates the percentage of arrests involving elderly offenders (ages 55-74) relative to the percentages contributed by other age groups (e.g., middle age, young), adjusting for the age composition of the U.S. population. This measure overcomes a common pitfall in age-specific analyses of crime: the failure to present age ratios or proportions that take into account the age composition of the population as a whole. The PAI represents a cumulative percentage, which equals 100% when summed across all age groups and provides a straightforward measure of the gap in homicide offending between the elderly and non-elderly. In addition, examination of PAI figures at different time points allows easy identification of shifts in elderly offending compared to younger groups. The formula for calculating the elderly PAI is: $PAI_{(elderly)ij} = 100 * (r_{(55-74)ij} / (r_{(15-34)ij} + r_{(35-54)ij} + r_{(55-74)ij}))$, where r = the arrest rate for a specific age grouping (young, middle age, elderly), i = year, and j = race/ethnic group. Similar procedures are used to calculate PAI figures for the young and middle age population groupings (i.e., by replacing the elderly rate in the numerator with either the young or middle age rate).

Homicide arrest rates and PAIs for young, middle age, and elderly groupings for the total population and five race/ethnicity groups are displayed in Table 1. The rates and PAIs are averaged to distinguish between the “Pre-2000” years (1985-1999) as compared to the contemporary “Post-2000” years (2000-2009). This averaging across years adds reliability to estimates of elderly homicide arrests both in general but particularly for the smaller population-sized groups, such as Asians and Native American, who also tend to have low homicide rates that might shift dramatically when assessed from year to year. It is worth noting, also, that preliminary analyses indicated that the specific cut-off year used to separate the “early” versus “contemporary” time periods had little impact on the substantive findings. Besides the overall comparisons in Table 1, we also present plots in Figures 1 and 2 that display yearly elderly arrest rates and PAIs for Whites, Hispanics, and Blacks covering the 1985 to 2009 period.

RESULTS

In order to assess race/ethnic-specific patterns and trends in elderly homicide, we first turn to the arrest rates and PAIs for the young, middle age, and elderly groupings displayed in Table 1. In line with prior research on age and crime, we find that the elderly account for a small fraction of homicide arrests across all race/ethnic groups and time periods. Table 1 shows that elderly homicide arrest rates are less than 3/100,000 for all race/ethnic groups in both the pre-2000 and post-2000 periods (except for 1985-1999

black rate = 5/100,000). In contrast, homicide rates for middle age group are 2 to 5 times higher and rates for the young group are between 5 to 20 times greater than elderly rates.

The relative scarcity of elderly homicide is further illustrated by the PAI figures, which show that the elderly account for less than 10 percent of all homicides (net of controls for population size). The PAI figures in Table 1 reveal that the elderly share of homicide is less than 5 percent for the total population and below 4 percent for some groups (Blacks and Hispanics). In contrast, PAI figures for the middle age groups range from between 12 percent (Asian, 1985-1999) to 29 percent (White, 2000-2009), while the young age groups account for approximately 60 to 80 percent of homicide rates.

Table 1. Elderly (Ages 55-74), Middle Age (35-54), and Young (15-34) Homicide Arrest Rates and Proportionate Age Involvement, 1985-1999 and 2000-2009

	WHITE		HISPANIC		BLACK		NATIVE AMER.		ASIAN		TOTAL	
	Rate	PAI	Rate	PAI	Rate	PAI	Rate	PAI	Rate	PAI	Rate	PAI
1985-1999												
Elderly (Ages 55-74)	0.76	5.92	1.57	4.06	5.35	3.91	2.37	8.76	0.43	7.87	1.15	3.76
Middle Age (Ages 35-54)	3.52	27.48	6.67	17.58	22.44	17.05	5.78	21.34	0.84	12.30	5.32	17.58
Young (Ages 15-34)	8.48	66.60	29.19	78.36	101.37	79.04	16.95	69.90	6.36	79.83	23.55	78.66
2000-2009												
Elderly (Ages 55-74)	0.74	9.65	0.74	3.57	2.58	4.12	0.98	8.03	0.25	4.34	0.82	4.84
Middle Age (Ages 35-54)	2.24	29.16	3.04	14.90	11.30	17.96	2.64	21.67	0.88	14.74	3.01	17.73
Young (Ages 15-34)	4.71	61.19	16.70	81.53	48.97	77.92	7.29	70.30	4.84	80.92	13.19	77.44

Table 1 also reveals several noteworthy race/ethnic differences in elderly homicide patterns and in the age distribution of homicide more generally.

First, consistent with previous research showing substantial differences in levels of violence across race/ethnicity groups (see review in Steffensmeier et al. 2011), we find that homicide rates (for elderly and non-elderly groups) are higher for Black and Hispanic populations and are generally lower for Whites and Asians, with Native American rates falling in the middle.

Second, the PAI figures in Table 1 indicate that the *relative* involvement of the elderly in homicide arrests (compared to younger ages) is somewhat lower for Black and Hispanic populations as compared to White, Native American, and Asian PAIs. That is, the elderly account for smaller shares of Black and Hispanic homicide rates than they do among White and Native American populations (and Asians to a lesser degree). Specifically, PAI figures show that the elderly account for only about 4 percent of the Hispanic and Black homicide rates, with the young age groups accounting for about 80 of their homicide rates; whereas, the elderly share of homicide is more than 8 percent for Native Americans and nearly 10 percent for Whites in the 2000-2009 period, with the young-adult age group accounting for 60 to 70 percent of White and Native American rates. Thus, there appear to be some important differences in the age distribution of

homicide offending across race/ethnicity. Black and Hispanic homicides are concentrated more overwhelmingly among the younger ages as compared to Whites and Native Americans.

Third, turning to the temporal trends, we find that elderly homicide rates have declined in recent years, as they have for the other age groupings – but that the elderly share of homicide (PAI) has remained fairly stable over the full 1985-2009 period. Table 1 shows that the elderly homicide rate for the total population was 1.15/100,000 in the 1985-1999 period but dropped to about 0.8/100,000 after the year 2000. However, because middle age and young homicide rates also dropped at a similar or slightly greater pace, the elderly PAI shows little change over time (i.e., increases slightly from 3.8 percent [1985-1999 period] to 4.8 percent [2000-2009 period]).

Focus on White, Black, Hispanic Trends in Elderly Homicide

The final step in our analysis focuses only on the temporal trends involving the three largest race/ethnic groups in California with more reliable elder homicide tabulations: Whites, Blacks, and Hispanics. Figures 1 and 2 display their rates and PAIs. We note the following. Black and Hispanic elder rates have declined (Figure 1) and their PAIs have held stable at about 4 percent over the 1980-2009 period. However, White (and Asian populations, see Table 1) show somewhat different trends. For Whites, the elderly have had fairly stable homicide rates over time (at about 0.8/100,000) but account for a larger share of White homicide after 1998/1999 (PAI = 5.9 in 1985-1999 period; 9.7 in 2000-2009). In contrast, the elderly PAI for Asian homicide drops from about 8 percent (1985-1999) to about 4 percent in the 2000-2009 period, showing a somewhat sizable decline in the elderly share of Asian homicide.

Figure 1. Elderly (55-74) Homicide Arrest Rates for White, Hispanic, and Black Populations, 1985-2009

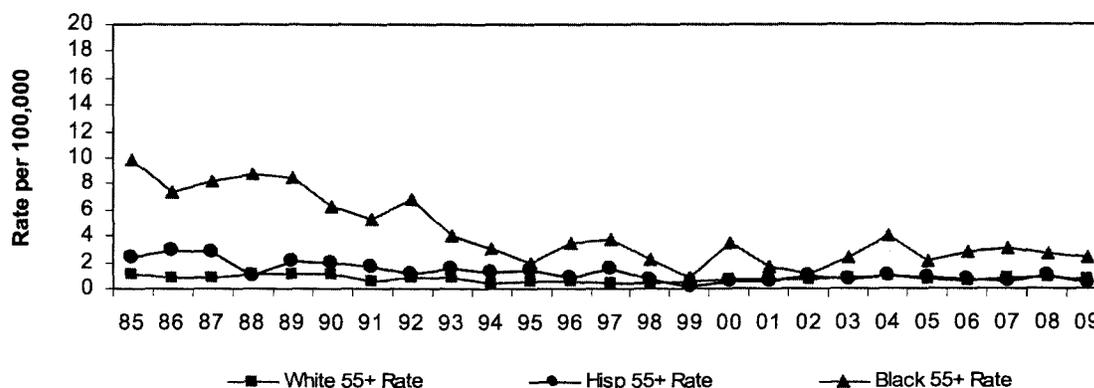
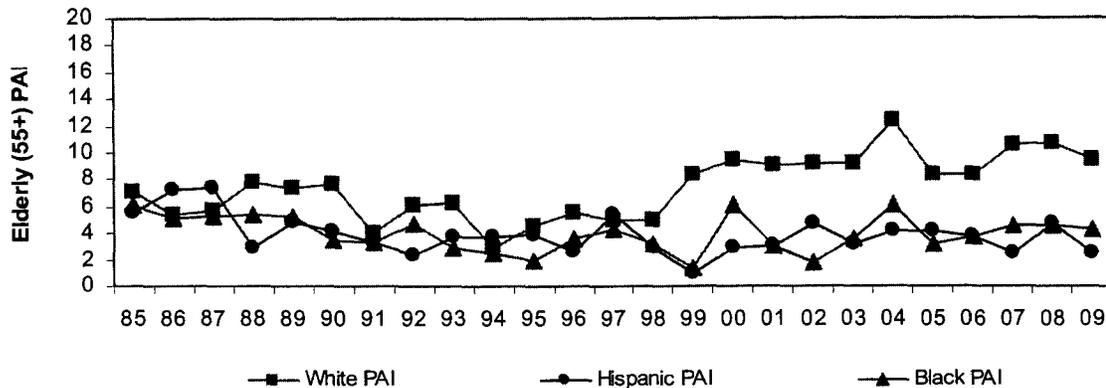


Figure 2. Elderly (55-74) Homicide PAIs for White, Hispanic, and Black Populations, 1985-2009



CONCLUSIONS

We draw several conclusions from our analysis of elderly homicide patterns over time and across race/ethnicity. First, as shown in prior work, the elderly account for relatively small portion of homicide offending compared to other age groups. Second, this pattern has not changed much over time. Third, there is some variation across race/ethnicity in patterns and trends in elderly homicide and in the age distribution of homicide more generally. Though the differences are small, the elderly account for larger shares of White and Native American homicide but smaller shares of Black and Hispanic homicide. In addition, while the elderly share of homicide has remained stable for Black, Hispanic, and Native American populations, it has increased for Whites but decreased for Asians.

Further research is needed to discern the sources of these race/ethnic variations in elderly homicide trends. One potential explanation for the rising elderly share of White homicide may be the presence of a “floor effect” among White rates – where the base rate for elder homicide is very low and has essentially bottomed out to the point where it cannot fall further, thereby causing the White elderly PAI to increase in the context of rapidly declining youth rates. With regard to trends in elder homicide among Asians, the decline in their elder PAI may simply be due to several outliers in Asian elderly homicide rates that create the image of a declining trend. Or the decline may reflect the increasing presence of gangs and higher levels of homicide among some of the growing, disadvantaged segments of the young Asian population in California (e.g., recent immigrants of Vietnamese, Laotian, Cambodian, and Hmong origins) which has caused young-adult Asian homicide rates to drop at a slower rate than for older groups.

Overall, the current study provides an important extension of prior research by offering one of the first analyses of race/ethnic-disaggregated patterns and trends in elderly homicide. But further analyses are needed that build on and extend these findings to better address differences/similarities in patterns of elderly homicide both over time and across race/ethnic comparisons.

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Exploring Clearance Patterns of Violent Crimes Involving Elderly Victims

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Abstract

Although older Americans are less likely to experience violent crime than their younger counterparts, research interest is growing with regard to victimization experiences of the elderly. One reason for this attention is an increased graying of America. The number of people in the United States over the age of 65 is expected to double by 2030 according to projections by the Bureau of the Census. With regard to homicide, current work has focused on identifying various correlates related to elderly victims. To date, no study has explored arrest or other clearance patterns involving these victims. The present study takes an exploratory approach to compare clearance for murders involving elderly victims as compared to younger victims as well as variation in clearance across types of violent crime for elderly victims. This study uses data from the Uniform Crime Reporting Program's National Incident-Based Reporting System.

Introduction

Crimes against the elderly are garnering greater interest from researchers and policymakers as more of the U.S. population is aging due to increased life expectancies and the graying of the Baby Boomer generation. A better understanding of these types of offense is important to establish and support effective prevention and victim services programs as well as to provide context to more accurately assessing risk. Studies consistently find that the elderly are greatly concerned about criminal victimization and tend to have higher levels of fear of victimization than appear to be warranted by their actual risk of victimization (Lachs, Bachman & Williams, 2004; Shields, King & Fulks, 2004; Warr, 1984).

Much of the research attention in this area focuses on elder abuse as well as other forms of violence including homicide. This work tends to examine either fatal or non-fatal violence (but see Chu & Kraus, 2004). Viewing violence against the elderly on a continuum would enable similarities (or differences) across crimes to be identified. This approach is particularly relevant to explore with elderly victims given indications that the elderly are more likely to suffer fatal or serious injuries than younger victims who experience the same incident (see Chu & Kraus, 2004, for a summary).

Despite the increased attention to violence against the elderly violence, few studies have explored clearance for these victims, especially for victims of non-fatal violence. In research examining homicide clearance, age is related to likelihood of

clearance. Homicides involving young victims (especially those under age 14) are consistently more likely to be cleared and to be cleared faster than cases involving adults especially older victims (see Reidel, 2008, for a discussion of the literature). One suggested explanation is that older adults tend to be more isolated and less likely to be in the company of others who could serve as witnesses and help clear the case (Reidel, 2008, citing Cardelli & Cavanagh, 1992). It is unclear whether these same clearance patterns are observed in non-fatal violence involving the elderly.

Although research interest is growing with regard to crimes against the elderly, this work has been limited by the availability of secondary data. Few secondary datasets have the necessary victim demographic or incident-level details, and even fewer are able to provide data at the national level or across types of violence. The Uniform Crime Reporting (UCR) Program's National Incident-Based Reporting System (NIBRS) provides the necessary incident-level detail to study a variety of crimes against the elderly. Examples of recent research using NIBRS to study crimes against the elderly include studies examining homicide (Krienert & Walsh, 2010; Chu & Kraus, 2004), non-fatal elder abuse (Krienert, Walsh & Turner, 2009), and financial exploitation of the elderly (Stamatel & Mastrocinque, 2011).

Research Questions

This exploratory project seeks to address three primary research questions: (1) what is the rate of victimization for the elderly across assaultive violence crimes; (2) what are the patterns and characteristics of elderly victims across assaultive violence and (3) what are the clearance patterns of assaultive violence involving elderly victims? For all three questions, elderly victims will be compared with non-elderly victims to provide additional context.

Methodology

Data

This study uses victim-level data from the 2008 NIBRS, which is the most recent year of publicly available data. This study relies on the NIBRS Extract Files provided by the National Archive of Criminal Justice Data. The cases analyzed cover three forms of assaultive violence: murders and nonnegligent manslaughters (referred to as "murder" for shorthand), aggravated assault and simple assault. To examine risk of victimization, rates are computed based on a total victim count. To examine characteristics of the victimizations, comparisons utilize cases involving one victim to allow for assumptions of statistical independence (Regoeczi, Jarvis & Riedel, 2008). The table below summarizes the difference between cases involving one victim as opposed to more than one victim.

	One victim	More than one victim	Percent One Victim
Murders	2354	3252	72.4
Aggravated Assaults	127558	203000	62.8
Simple Assaults	561035	773264	72.6

Victim Age

Defining “elderly” itself is a fairly new concern. Typically elderly is defined as age 65 and older. Today with more active older adults (and more Baby Boomers approaching this demarcation) as well as questions about the homogeneity of this group, there has been some resistance to this bright-line definition. The Census Bureau uses additional age sub-categories including “older” (age 55 and above), “young-old” (ages 65-74), and “oldest-old” (age 85 and above) (He, Sengupta, Velkoff & DeBarros, 2005).

NIBRS has the benefit of collecting exact ages so the data can readily accommodate any definition of elderly. Researchers frequently utilize 65 and older based on common practice as well as concerns for small sample sizes. This project will capitalize on the age detail of NIBRS and explore the 65 and older definition as well as the Census definitions of young-old (ages 65-74) and oldest old (85 and older).

NIBRS Coverage

NIBRS data are essential for this study as they provide victim demographics, incident characteristics, and clearance details for all three forms of assaultive violence. One caveat in analyzing NIBRS data is its limited coverage. NIBRS is a substantial departure in crime data collection for law enforcement agencies and requires a lengthy certification process. As a result, the conversion to NIBRS has been gradual. In 2008, 31 states were NIBRS certified. Within these 31 states, not all agencies submit data in NIBRS format. NIBRS agencies covered approximately 25% of the U.S. population in 2008 (JRSA, n.d.). Law enforcement agencies that participate in NIBRS tend to represent smaller population areas. In 2008, no agency covering a population of more than 1 million participated in NIBRS. Because participation in NIBRS is voluntary, NIBRS states and law enforcement agencies do not constitute a representative sample of U.S. law enforcement agencies or states. This nonrepresentativeness of NIBRS suggests exercising caution when interpreting the results and generalizing beyond the NIBRS-participating agencies included in this study (but see, Addington, 2008).

Although NIBRS lacks full national coverage, several states are fully NIBRS reporting. In 2008, 9 states reported 100% of their crimes in NIBRS format: Delaware, Idaho, Michigan, Rhode Island, South Carolina, Tennessee, Vermont, Virginia, and West Virginia (JRSA, n.d.). These states provide an opportunity to explore age-specific rates for the three types of assaultive violence by using their NIBRS crime data in conjunction with Census population data. These analyses can help provide a context to the risk of assaultive violence for the elderly.

Variables Utilized

Clearance

This study explores *clearance* of assaultive violence against the elderly. The term “clearance” is used rather than the more specific term “arrest”. This definition and terminology parallels the Federal Bureau of Investigation’s practice of considering a crime cleared or “solved” for crime reporting purposes if there has been either an arrest or activity constituting clearance by exceptional means (FBI, 2004). A case is cleared by arrest if at least one offender is arrested, charged and turned over to the court for prosecution in connection with the murder (FBI, 2004). Exceptionally cleared cases occur when a suspect is identified but events beyond the law enforcement agency’s control prevent an arrest because of the death of the offender, prosecution is declined, or extradition is denied (FBI, 2004).

Other Victim Characteristics

In addition to age, victim demographics of *sex* (male and female) and *race* are used. Because of low numbers for specific racial groups, these categories were collapsed into White and non-White. For *race*, White and non-White victims are compared due to the small number of minority victims who are not African American such as Asians and Native Americans.

The third victim characteristic examined is *victim-offender relationship*. This variable includes six categories: intimate partners, family members, friends/acquaintances, otherwise known, strangers and unknown. To minimize the number of missing cases, a category of “unknown” victim-offender relationship was included to include those cases where the relationship was specified as unknown as well as cases where no information was known about the offender. NIBRS allows multiple codes for victim-offender relationship, where there were multiple offenders in the incident. Since the vast majority of one-victim cases involve a single relationship (79.3% murders, 88.7% aggravated assaults, 93.7% simple assaults), the first NIBRS code is used. Victim-offender relationship is of particular interest. Krienert and Walsh (2010) note that while many studies highlight a “stranger danger” aspect of elderly homicides

(by emphasizing these homicides as linked to other felonies), a new area of research suggests an increase in intrafamilial homicides involving the elderly.

Incident Characteristics

In addition to clearance, three incident characteristics are explored: location, weapon, and circumstance code. Although NIBRS collects a wide range of incident *locations*, this study dichotomizes location as whether the incident occurred at home or not. Home location is the focus given its high frequency as a crime location. For *weapon*, the categories include: firearm, knife, personal contact and other. Although NIBRS allows for reports of up to three weapons per each offense in the incident, the decision was made to count only the first weapon reported. This decision rule greatly simplifies the analysis and includes the vast majority of weapons since most victimizations involved only one weapon. *Circumstance codes* are only available for homicides and aggravated assaults. These codes include whether the crime was related to an argument, assault on a police officer, drug dealing, gangland, juvenile gang, lovers' quarrel, mercy killing (for homicides only), other felony, or other circumstance.

Analyses Conducted

Due to the exploratory nature of this study, bivariate relationships are explored to examine the initial aspects about the location of the homicide. These analyses will form the foundation for future multivariate models.

Preliminary Results/Initial Findings

Examining elderly victimization across assaultive violence provides several interesting patterns that both support previous findings of elderly homicide and provide a greater context by examining fatal and non-fatal violence together. These patterns will be presented and discussed during the conference meetings.

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Homicide-Suicides among the Elderly: 1968-1975

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Homicide-suicide, the murder of another followed by suicide of the offender, is a serious form of interpersonal violence. It not only involves the death of the offender, but also the death of multiple victims, frequently spouses and/or family members.

What makes the problem an emerging public issue is that we are closing in on a very large increase in the elderly population. Recent demographic research points out that the first of the baby boomers - born between 1945 and 1965 - will be turning 65 in 2011 (Frey 2007; Brookings Institute 2010). What contributes to the increase even more is that the World War II generation - born between 1936 and 1945 - are part of the 65 and older group. According to Frey (2007), there is an 15 percent increase in the over 65 population from 2000-2010 and an over 35 percent increase in the decade 2010-2020. The over 65 population finally begins to decline in the decade 2020-2030. While the rate of homicides and homicide-suicides may remain the same, the volume of victims and offenders will increase.

There are two interrelated problems with the knowledge base on homicide-suicides. First, it is a research issue that falls between the typical boundaries of two disciplines, public health and criminology, and has been studied independently (Riedel 2010; Liem 2010). As Stack (1997 p. 435) has indicated, "Research on homicide has tended to neglect suicide and the research on suicide has neglected homicide." Hence, what is known about homicide-suicides is contained in a relatively small amount of research.

A second problem is that much of the research relied on small samples. Prior to the emergence of NVDRS, most of the research on homicide-suicides had to rely on data extracted from medical examiner case records, and the homicide and suicide had to be linked together manually. This has meant many studies of homicide-suicide are limited to local data sites, primarily cities or counties, without comparison groups, with very small samples, and a heavy emphasis on

description. To avoid the latter limitations, some studies used newspaper files or supplemented the analysis with newspaper files (Riedel 2010).

Given this state of affairs, research on elderly homicide-suicides has been sparse and historical studies of elderly homicide-suicides have been even more rare. The present study addresses this issue by analyzing a nationwide data base of homicide-suicides from 1968-1975.

METHOD

In a nationwide homicide research project, that covered the period 1968 through 1978, Riedel and Zahn (1994) analyzed the Supplementary Homicide Reports (SHR). Unfortunately, because of changes in the SHR in 1976, we were not able to analyze data prior to that date. The data files were subsequently filed with ICPSR.

Recently, Dr. Bridges downloaded these files and found that the FBI had collected data on homicide-suicides from 1962 through 1975. Because 1962 through 1967 data are still being processed, this paper focuses on data from 1968 through 1975.

In the original data, the dependent variable was coded as homicide-suicide, normal homicide, murder by a juvenile, and murder by an insane person. For this statistical analysis, homicide-suicides were coded "1" and all others "0". Victim age was entered as a continuous variable. Males were code "1" and females "0". Victim race was coded "1" for white, "2" for black, and "3" for other races. Weapons was coded "1" for handguns, "2" for other firearms, "3" for cutting instruments, "4" for blunt instruments, and "5" for "other weapons." Victim/offender relationships were coded "1" for spouse, "2" for child kills parents, "3" for family conflicts, "4" for other arguments, and "5" for other. Except for gender, the highest value was the reference variable.

The original data consisted of 6,703 homicides and 184 homicide-suicides over the age of 64. To avoid the statistical problems of having such a large number of homicides to compare to a small number homicide-suicides, a random sample of 400 homicides were selected and merged with the file of 184 homicide-suicides.

Given the space limits of the paper, the following section will present the results of a binomial logistic regression for the 68 through 75 data. As specific variables are discussed, comparisons will be made to current studies. One approach was to compare the results in Table 1 to results of current studies of elderly homicide-suicides to homicide victims. However, only one study could be found that provided the necessary comparisons and that was limited to intimate partner

homicides and intimate partner homicide-suicides in California (Lund, & Smorodinsky 2001). There is some value in the comparisons because the most frequent type of homicide-suicides involve intimate partners .

RESULTS

Table 1 gives the results of the logistic regression.

Table 1. Logistic Regression Results of Factors Distinguishing Homicide from Homicide-Suicides: Elderly Homicide Victims, 1968-1975

Variable	B	S.E.	Wald	df	Sig.	Odds Ratio
Age	0.038	0.028	1.818	1	0.178	1.039
Male	-2.319*	0.384	36.495	1	.000	0.098
White Race	0.804	1.299	3.83	1	0.536	2.235
Black Race	-0.672	1.362	0.243	1	0.622	0.511
Handguns	2.195*	0.629	12.184	1	.000	8.984
Firearms	2.472*	0.727	11.568	1	.001	11.943
Cutting Inst.	0.919	0.692	1.764	1	0.184	2.508
Spouse	4.539*	0.533	72.547	1	.000	93.594
Parricide	3.368*	0.610	30.500	1	.000	29.008
Family Conflicts	3.038*	0.695	19.100	1	.000	20.866
Other Arguments	2.771*	0.598	21.482	1	.000	15.970

*p ≤ .001

The Hosmer-Lemeshow test was not significant (p = 0.153) indicating an

acceptable model fit. As Table 1 indicates, age of victims was not significant. The mean age of the 400 homicide victims and 184 homicide-suicide victims was identical (71.1); the standard deviation for homicide victims was 6.4 and for homicide-suicide victims, it was 5.7.

Lund and Smorodinsky (2001) provide a detailed breakdown of age for intimate partner homicides and homicide-suicides. It appears that intimate partner homicide victims are substantially older from 15 through 49 than homicide-suicide victims. The range for homicide victims is 57.7% to 60.5% for three age groups. For homicide-suicides, the same age range is from 42.9% to 39.5%.

However, for the three age groups, 50 through over 90, the percentages are reversed. The homicide-suicide victims are older (53.3% - 90.9%) than homicide victims (46.7% - 9.1%).

Victim gender was highly significant. Homicide-suicides were decreased for males by a factor of 0.098. Elderly female victims were 81.0% of homicide-suicides, but only 27.5% of homicide victims. For all intimate partner homicides in the Lund and Smorodinsky study, 100% were male. For females, gender was more evenly split: 52.6% were homicides and 42.9% were homicide-suicides.

Victim race was not significant for elderly homicides and homicide-suicides. In the cross-tabulation, 94.0% of the homicide-suicides and 63.0% of the homicide victims were white. Among blacks, 6.0% were homicide-suicide victims and 32.0% were homicide victims.

For the Lund and Smorodinsky research, of the white victims, 50.7% were homicide victims and 49.3% were homicide-suicides. Black victims, by comparison, were 78.7% of the homicide victims and 21.3% of the homicide-suicide victims.

For weapons, handguns and other firearms were statistically significant, but cutting instruments and blunt objects were not significant. The odds of a homicide-suicide involving a handgun increased by a factor of 8.964 and for other firearms, it increased by a factor of 11.433. Handguns were used in 63.1% of the elderly homicide-suicides and 29.1% of homicides. Other firearms were used in 18.8% of elderly homicide-suicides and 11.6% of homicides. In the Lund and Smorodinsky research on intimate partners, guns were used in 56.0% of the homicide-suicides and 44.0% of homicides. The only other category used was "other weapon" and that accounted for 87.3% of the homicides and 13.0% of homicide-suicides.

For victim/offender relationships, all the classifications were significant. The

odds of a homicide-suicide involving spouses was increased by a factor of 93.594. In the cross-tabulation, spouse killing were 71.8% of the homicide-suicides and 6.6% of the elderly homicides. In the Lund and Smorodinsky, legal spouses were the victims in 50.4% of the homicide-suicides and 49.6% of the homicide cases. Other types of intimate partner relationships (dating and former spouse) were proportionately more often homicides than homicide-suicides.

The odds of a homicide-suicide involving parricides or child killing parents was increased by a factor of 29.008. Children killing their elderly parents were 10.0% homicide-suicides and 5.1% of homicides.

The odds of a homicide-suicide occurring because of family conflicts increased by a factor of 20.866. Family conflicts were 6.5% of homicide-suicides and 4.5% of homicides. The odds of a homicide-suicide occurring because of other arguments increased by a factor of 15.970. In the cross-tabulation, other arguments were 8.2% for homicide-suicides and 17.6% for homicides.

DISCUSSION

One of the major problems in this study was finding a contemporary study comparing homicides to homicide-suicides. Other than examining homicide-suicide and homicide victim using the National Violent Death Reporting System, the alternative would be to examine elderly intimate partner homicides and homicide-suicide victims rather than all victims.

One of the more surprising results was the absence of a significance in the logit for race yet large differences in percentages. The Lund and Smorodinsky research also failed to find large differences for whites in comparing homicides to homicide-suicides. Although limited to perpetrator race, other studies have concluded that homicide-suicides are a white man's crime (Riedel 2010)

In general, the results of this study and others support the view that homicide-suicides are predominantly intimate partner violence, especially involving spouses. In addition, there is general agreement in the research literature on the use of handguns and other firearms as the weapon of choice in homicide-suicides (Riedel 2010; Liem 2010)

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Session V – Historic and Spatial Analysis of Homicide

Stability and Change in Chicago Street Robbery: 1991-2009

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From 1991 through 2009 more than 300,000 street robberies were recorded by the Chicago Police Department. However, the number of street robberies declined from 30,000 to 11,000 per year over the time period. Using the 1991 spatial pattern as a base, this presentation uses animations of CrimeStat's kernel density interpolation and nearest neighbor hierarchical hot spots to analyze changes in the spatial distribution of robbery over 19 years. In the early years, two distinct patterns of street robbery occurred. In some high crime areas, street robbery could occur almost anywhere. In lower crime areas, street robbery mostly occurred on main surface streets and near rapid transit stations. The decrease in robberies was greatest in the high crime area, and the early pattern of danger everywhere in these areas weakened. Hot spots on main streets and near rapid transit stations remained although these too cooled. The level of street robbery has been stable since 2004. Taking 2004 as a base, the spatial pattern of street robbery changed little in the ensuing five years. Of course, the decrease in robberies reflects larger trends in society, but also suggest changes in the demographic and physical structure of Chicago.

The More Things Change, the More Things Stay The Same: Homicides in Birmingham (Jefferson County), Alabama

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ABSTRACT

Violent crime in Birmingham, Alabama, has a past, a present, and a future. This article divides Birmingham's early history into two time frames (1871 to 1919 and 1920 to 1971), then describes 1973 to the present as a partial function of that history and finally hypothesizes what homicide patterns might be expected in the next decade.

Introduction

Birmingham, Alabama is the largest city in the state. From its founding, high levels of personal violence has been the norm. Crime, with a focus on homicide, is examined in three times periods: from the founding of the city in 1871 until 1919, when the fee and lease system ended; from 1920 until 1972, when whites were the majority and controlled the politics in Birmingham; and from 1973 until 2010, when blacks became the majority within the city and elected black leaders. During the 140 years of the city's existence, the criminal justice system has undergone seismic changes, though none has reduced the high rate of violence.

1871 to 1919

Birmingham located in Jefferson County, was created in 1871. A railroad was constructed to transport the natural mineral deposits (coal, iron ore, etc.) that could be used to make steel. Along with the break-neck growth of industry, its population increased to feed the machine. Jefferson County's population was 23,272 in 1880, 88,501 in 1890, and 140,420 in 1900 (Letwin, 1998). As with all boom-towns, it was a crime-ridden metropolis. According to Hoole (1980):

Chartered in December, 1871, the city was less than twenty years old at the times of the Hawes murders and the infamous Jail Riot, a sprawling, rapidly growing coal- and iron-mining, steel-producing town of about twenty-five thousand people, a disproportionate number of whom were get-rich-quick prospectors, railroad entrepreneurs, financial speculators and wildcat prospectors. Into this

maelstrom of adventurers, as if by magic, were drawn every manner of man and woman—gamblers, saloon keepers, swindlers, thieves, murderers, and whores, whores, whores, each seeking his or her overnight fortune, to say nothing of the hordes of convicts legally emptied into the community from Alabama’s several prisons as contracted laborers (p. 136).

From 1871 until 1919, all Alabama convicts were subject to the fee system. While the fee system went through a number of incarnations, it required the convicted to pay all court fees, separate of any fines imposed. Almost all of those convicted were poor blacks and the only way they could pay was to sell their labor. White men controlled every portion of the system, and it was not unusual for each to take a “taste” out of the revenue generated. Those who arrested the men were often given part of the fee. If those convicted were kept in the county, they worked off their fee there and the sheriff was given thirty cents a day by the state to feed them. Often the sheriff spent ten cents per prisoner and pocketed the difference. The magistrates and judges were paid part of the fee, so the higher the court costs and fine, the more they profited. Prisoners could be “purchased” by private concerns to work. Many prisoners worked more days than their sentences required because of “mistakes” in bookkeeping (Curtis, 2000). For the most part, those convicted of misdemeanors and felonies in Jefferson County courts were leased while those convicted of misdemeanors in Birmingham were put to work on city projects. Jefferson County was the first to use convicts to work on the roads, breaking rocks and pouring macadam (Dodge, 2000).

The number of murders increased threefold with the population between 1880 and 1890 when compared to the prior decade. Police jurisdiction extended three miles into the county and the local criminal justice system operated on the fee system. City government, the courts, and the police were given financial incentives to make arrests. From 1888 to 1908, 30% of the population was arrested per year, with many not being convicted. To say that the police over-arrested would be an understatement (Bigelow, 1950).

It is impossible to determine with any accuracy the actual number of homicides that took place in Birmingham or Jefferson County from 1871 to 1919, but brief glimpses of violence are available. According to Letwin (1998):

The mining towns did have their rougher side. Individual violence occurred frequently in the streets, saloons, and the mines. Most incidents pitted white against white or black against black, although at times it was interracial. Often the cause was apparently trivial. Disputes over a shovel handle, a fifty-cent debt, a game of dominoes, or “a woman” were but a few of the episodes that led to fatal bloodshed among miners (p. 34).

In the year of 1909, there had been 142 homicides with a population just under 140,000.

As with many laws that are passed in an attempt to control people's behavior, initially they seem effective. When the populous learns that either the police aren't going to enforce the law, or the prosecutor won't indict the accused, or the jury won't convict the defendant, the law can be safely ignored. Prohibition in Birmingham is an example of a law that was supposedly initially successful, but then became unenforcable. According to Washington (1913):

A further proof that prohibition when enforced docs cause a decrease in crime is shown by the reports that came from Atlanta, Georgia, and Birmingham, Alabama. During the first two months that prohibition was in effect in those cities there was a remarkable decrease in crime. At the end of the first month in Birmingham Judge N. B. Feagin reported to the mayor that "the decrease in arrests averaged about as follows: In comparing January, 1008, under prohibition, with January, 1907, with saloons, aggregate arrests decrease 33 1/3; for assault with intent to murder 22 per cent; gambling 17 per cent; drunkenness, 80 per cent; disorderly conduct, 35 per cent; grand larceny, 33 per cent; vagrancy, 40 per cent; wife beating, 70 per cent."

The Birmingham News, in commenting upon the first effects of prohibition said: "For ten years Birmingham has not enjoyed so orderly a period as it has since the 1st of January (1908). The moral improvement of the city has been marked since prohibition went into effect. The newspapers are no longer giving space to shootings, murders and cutting scrapes, personal altercations and other disorders as they formerly did for the reason that the regard for law and order in this community is very much more in evidence since the removal of the whiskey traffic (p. 391).

By 1910, two additional laws had been passed in an attempt to reduce violence. The punishment for carrying concealed weapons was increased and convicts working in the Jefferson County mines were to be released in the county where they were originally convicted. Both laws proved as ineffective as the prohibition of alcohol. Prohibition resulted in 700 places where illegal liquor could be purchased, gun laws didn't deter violent people, and many of the released convicts returned to Jefferson County where they could lose themselves in the big city (Bigelow, 1950).

In 1919, the fee system came to an end in Jefferson County, and with it, the number of county prisoners lessened. Now that sheriff and deputy received stipulated salaries, there was no economic incentive to make arrests (Curtin, 2000). Two studies add to our understanding of violent crime.

1920 to 1971

The Barnhart Study

In 1931, Dr. K.E. Barnhart, a sociologist in Birmingham said that his city had a murder rate of 49 per 100,000 in 1930, which he blamed on black illiteracy (American, 1931). In his brief study, he postulated that Birmingham was the country's leader in murders but most were inter-racial, though whites killed 12 blacks, and blacks killed four whites (Recreation, 1932).

The Harlan Study

A second academic examination that was much more detailed than The Barnhart Study, examined 500 Birmingham homicides that occurred from January 1, 1937 to December 26, 1944. Harlan (1950) felt his most important finding was the large number of black homicides.

Of the 500 victims, 427, or 85.4 percent are Negro and only 73, or 14.6 percent are white; of the 492 known agents, 418, or 84.9 percent of the population, are Negro and 74, or 15.0 percent, are white. During the period in which the 500 homicides occurred only about 40 percent of the population of Birmingham was Negro (40.7 percent in the census year of 1940; slightly less than in the late 1930's; and less than 43 percent by the latest estimate for 1949), so it is clear that Negroes greatly exceed their "quota" of homicides (p. 737).

When Harlan considered age and sex, his findings was unaltered. He did feel that life circumstances, made up of three cultural characteristics impacted the high black homicide rates. He said in part:

First, the Negro lower class (the lower class among whites, too, though probably to a lesser degree) is characterized by extreme instability in the sex-marriage-family complex. The institutional controls which regulate sex and family relations in the higher social levels are largely absent in this class. The result is a confused, unsystematic and unregulated chaos in which individual desire, choice and whim govern behavior... Secondly, the extremely low economic status of the lower class Negro is productive of living conditions conducive to homicide... Finally, it may be said that the lower class Negro is only a marginal participant in society (p. 738-739).

In 45.2 percent of the homicides, black males killed black males. Interestingly, black females killing black males made up 17.8 percent of the homicides, while black males killing black females made up 13.4 percent of the homicides.

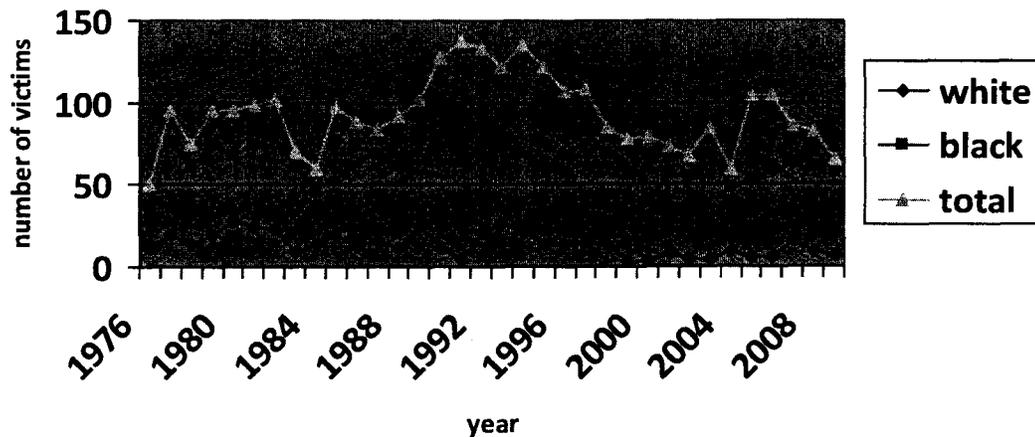
It was further found that the mean age of white victims was 38 years while black victims were 32.8 years old. White perpetrators used firearms in 71.6 percent of the homicides while blacks used them in only 45.2 percent of the homicides. Homicides were also concentrated in the five central tracts of Birmingham located around the central business

district, which had 11.9 percent of the population, primarily black, but 37.8 percent of the homicides.

1972-2010

The last white incumbent mayor, George Seibels, as part of his re-election bid, promised the Birmingham would wage an all-out war against crime, while at the same time claiming his strategies were beginning to work (B'ham to wage war on crime, 1972). Seibels was defeated by Richard Arrington, Jr., Birmingham's first black mayor, who served from 1972 and until 1999. During those twenty years, he championed affirmative action and changed the racial makeup of the police department. After Arrington's election, blacks consolidated political power on the city council and there has never been another white mayor. The following graph includes the race of victims from 1976 to 2010.

Alabama Criminal Justice Information Center: white, black, and total victims for Birmingham



In 2008, Langford was arrested by the FBI for conspiracy, bribery, fraud, money laundering, and filing false income tax returns while he was president of the Jefferson County Commission from 2002 to 2006. He was convicted on all 60 counts. He and his wife blamed the conviction on "race." Langford had a personal debt of \$650,000, even with all of his illicit proceeds. Birmingham itself reflected the mayor's financial acumen.

Birmingham, Ala. is discussing filing for bankruptcy after struggling to pay the interest on more than \$3 billion of debt, the *London Daily Telegraph* has reported. Jefferson County, which contains the city, borrowed billions of dollars via

complicated financial instruments devised by Wall Street investment banks in recent years (Shannon, 2008).

In 1960, Birmingham's population was 340,887, but by 2010, it had been reduced to 212,237. From 2006 to 2009, 56 percent of those charged with committing murder in Birmingham were between the ages of 16 and 24. Black males were 89 percent of the murderers and 70 percent of the victims in Birmingham (Velasco, 2010).

Discussion

The homicide rate in Birmingham, from 2011 to 2021, will likely not decrease. If one believes in the stringent enforcement of the law and maximum incarceration or the opposite, rehabilitation, resources exist for neither. It is just as likely that the next mayor will be elected on a platform of reducing violent crime and will promise a new "study" to determine the causes, as the population continues to flee.

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A Preliminary Analysis of Drug Transportation Corridors and Homicide

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Law enforcement agencies and other analysts have long assumed that easy access to illicit drugs affects levels of drug use and abuse, as well as associated problems such as violent crime (Sharp, 1994). Since approximately four-fifths of illicit drugs in the U.S. are of foreign origin (MacDonald & Zagaris, 1992), the transportation of drugs from points-of-entry in the Southwest and the eastern and western seaboard to urban markets in the Midwest, the Pacific Northwest, and the opposite coasts frequently employs major east-west (e.g., I-10, I-80) and north-south (e.g., I-95) interstate highways. Law enforcement officials and substance abuse treatment providers in communities near these “drug transportation corridors” worry about their impact on local drug use and associated crime.

The fear that proximity to drug corridors will worsen local drug problems finds frequent expression in newspapers, law enforcement bulletins, and other publications (cf. *New York Times*, 1995; Warshaw and Daly, 1996). Reports from the Community Epidemiology Work Group echo these sentiments. Location along major interstate highways has been identified as an important factor in drug use in several cities, including Atlanta (Stark-Elifson, Hatch, and Jenkins, 1996), Boston (Clark, Elliott, and Krakow, 1996), and New Orleans (Thorton-Collins). Drug use and drug markets have been identified as a strong contributing factor to levels of violent crime, including homicide, at the city level (Goldstein, 1985), with 80 percent or more of homicide victims and offenders having a prior drug arrest on their record.

A theoretical model supporting the belief that communities located along a drug corridor will experience an increased drug supply is provided by Galle & Taeuber (1996) in their analysis of intervening opportunities on the flow of migrants between U.S.

metropolitan areas. They assert that only some portion of migrants will reach their intended destination; the proportion that do so is an inverse function of the distance traveled and the number of intervening opportunities. Galle and Taeuber's idea has been applied to several empirical areas, including crime (Elffers et al., 2008), but to our knowledge, there have been no studies focusing on the linkage between drug transportation routes and levels of associated drug use and attendant crime. The "drug corridor hypothesis" would hold that only some portion of drugs will reach their intended markets; some quantity of drugs will instead be distributed in intermediate communities that provide potential market opportunities. The current analysis is a first step toward expanding our knowledge in this area. Specifically, we address the question, "Does location along a drug corridor, or pipeline, increase homicide rates at the county level, when controlling for theoretically relevant socioeconomic and demographic variables?"

Methods

The units of analysis for this study are Georgia counties (N=159). Georgia serves as a useful state for a preliminary analysis of the drug corridor hypothesis for several reasons. First, interstate highways running through Georgia connect the drug importation areas of the Southwest and Florida with major metropolitan areas in the Northeast and upper South. Second, Georgia is a diverse state with significant numbers of rural and urban counties and substantial county-level variation on several variables that are frequently linked to variation in homicide rates, including poverty, percent Black, and percent female-headed households. Third, the intersection of demographic and socioeconomic indicators within Georgia may produce fewer problems with multicollinearity than in many macro-level studies of crime. Specifically, several counties

concentrated in the Atlanta MSA have significant percentages of African Americans but are above the median values for measures of socioeconomic status. This pattern reflects the development of enclaves of middle-class African Americans in the Atlanta suburbs during recent decades.

Dependent Variable

The dependent variable in the following analysis is the county-level homicide rate for the three years beginning in January 2007 and ending in December 2009. The numbers of homicides in each county come from the monthly reports obtained from the Georgia Bureau of Investigation Crime Statistics (<http://services.georgia.gov/gbi/crimestats/displayReports.do>).

Independent Variables

Our primary theoretical variable identifies those counties in Georgia that are located along an interstate highway (INTERST) with 1 = “yes” and 0 = “no.” The county scores on this variable were determined by visual examination of a state highway map of Georgia.

Several other variables were included in the analyses based on their past usage in macro-level homicide research and their expected theoretical significance. Minority representation in the population was measured by two variables, percent Black (PCTBLACK) and percent Hispanic (LOGHISP). The percentage Hispanic variable was logged to correct for skewness. Two county population characteristics were controlled; LOGPOP, the log of the total population corrected for skewness, and POPCHANG, the percent change in the county population between 2000 and 2010. Low economic status was measured by the percent of the county population below the poverty line

(POVERTY), while the percentage of households with children that were headed by women (FEMALEHH) was included as an indicator of family disorganization. Finally, location within a metropolitan statistical area (MSA) and in a high intensity drug trafficking area (HIDTA) were included as markers of a county's position in the urban-rural continuum and to distinguish counties in which drug trafficking concerns, and supposedly interdiction/enforcement efforts, are enhanced.

Currently, researchers are in a transitional stage in relation to the availability of county-level census data. Some early results from the 2010 Census have been released, and county population and population change were taken from this source (Georgia Info, 2011). For several variables, however, the most recent data available are from the five-year (2005 to 2009) estimates of the American Community Survey (ACS), and county data for percent Black, percent Hispanic, percent poverty, and percent female-headed households were taken from this source (U.S. Census Bureau, 2011). MSA status was taken from Economic Yearbook for Georgia MSAs (University of Georgia, 2010), while HIDTA status was obtained from the Office of National Drug Control Policy (2009).

Analysis

As with most macro-level studies of homicide, the numbers for Georgia counties are not normally distributed. Approximately 25 percent have no recorded homicides over the three-year period, 2007 to 2009. Under these circumstances, the use of OLS is not appropriate. Because the homicide are over-dispersed, meaning that the variance is greater than the mean, the models were estimated using the negative binomial regression (NBR) option available in STATA 11 with the homicide count as the dependent variable and the log of the population as the offset.

Results

In preliminary diagnostics (not shown), it was determined that multicollinearity was not a problem in estimating the model. Specifically, all VIFs were under 4, a conservative criterion for identifying possible bias in the model results (Fisher and Mason, 1981). This finding is somewhat surprising in that macro-level studies of homicide and other crimes frequently encounter multicollinearity as a problem for model estimation (Land, McCall, and Cohen, 1990), but its relative absence in our analyses may reflect the particular demographics of Georgia counties noted above.

The results of the negative binomial regression model are reported in Table 1. Most important, the coefficient for INTERST denoting that an interstate highway passes through a county is positive and significant ($z = 3.64$). This finding supports the hypothesis derived from Galle and Taeuber (1966) that proximity to a drug transportation corridor is conducive to higher levels of homicide.

Three additional variables in the model are significantly related to homicide rates in Georgia counties. Consistent with most prior research in this area, both measures of minority representation, higher concentrations of Black and Hispanic minorities, are related to increased levels of homicide. Moreover, even with several controls for socioeconomic and demographic characteristics, counties within a MSA have significantly higher homicide rates than those not in an MSA. This finding is expected because more urbanized areas typically have higher rates of several serious criminal offenses, including homicide.

Perhaps most surprising is the lack of significance for poverty, a common indicator of low economic status, and percent female-headed households with children, a

variable that is typically used as a measure of family disorganization. Both findings may reflect the geographical location of the present study. Messner (1982) found poverty to be strongly related to homicide outside the South, but not in the Southern states. And, most inquiries that report family disorganization to impact homicide have used urban neighborhoods, cities, or MSAs as units of analysis. Prior research including a measure of family disorganization at the county level has been sparse.

Discussion and Conclusions

The most important finding from the current study is that location along an interstate highway augments county homicide rates in the State of Georgia. This pattern lends credence to the common concerns expressed by law enforcement and others that proximity to drug transportation routes is inimical to a community's well-being through a spillover effect. As noted above, an existing body of work in migration would logically lead to the prediction of a positive relationship between drug corridors and a range of problems linked to levels of drug use.

Obviously, the results reported in this paper are only a beginning. The model in Table 1 needs further work, including the addition of a spatial lag variable. Further attention needs to focus on alternative explanations for the positive effect of interstate highway proximity on homicide levels. Interstates are conducive to the transportation of drugs and other products, both legal and illegal, but they also convey people. It is possible that the increased numbers of individuals passing through counties located on interstates are conducive to enhanced violence through mechanism other than enhanced drug use and selling. Finally, the current analysis needs to be extended to include other crimes, regardless of whether they are linked to drug use.

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Table 1

Negative Binomial Regression of County Homicides in Georgia (2007-9) and Interstate
Corridors

Variable	Coefficient	Standard Error	z	P> z
INTERST	.7024392	.1932232	3.64	0.000
LOGHISP	.9764609	.2997108	3.26	0.001
PCTBLK	.0311589	.0096279	3.24	0.001
POVERTY	-.0030581	.0248578	-0.12	0.902
Female HH	-.0135015	.0317906	-0.42	0.671
MSA	.7152066	.1924395	3.72	0.000
HIDTA	.4487806	.366636	1.22	0.221
POPCHANG	-.0065792	.0066823	-.98	0.325
Constant	-4.939305	.5805555	-8.51	0.000

Pseudo R²: .1154

Session VI – Potpourri II

Revisiting Domestic Violence Research: A Question of Analysis?

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This paper seeks to identify plausible directions for analyzing corresponding quantitative and qualitative components of data which inform about various aspects of domestic violence offending. Given the scope of the dataset, a plethora of information is available on the life event histories of male and female domestic violence perpetrators. The main content areas include personal, social and familial factors. It is questioned as to the extent to which the specific items within these categories may differ as to their relative ability to explain offending behavior among perpetrators, and varying contextual aspects of the domestic violence incident. Data are derived from two sources, those being an interview and self-reported questionnaire from individuals arrested for domestic violence. The qualitative component consists of case scenarios of single and repeated incidents of domestic violence. Distinguishing from the majority of domestic violence research, this paper focuses on the offender.

More Findings from the North Carolina Capital Sentencing Project: Some Not-so-Expected Results

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Introduction

This presentation further explores patterns of death sentencing in North Carolina that were discussed at last year's HRWG meeting. At that time, results from the North Carolina Capital Sentencing Project were presented as an overview of recommendations for death penalties by North Carolina juries during the period 1977-2008. As mentioned then, this information is both a profile of a public policy response to murder and of factors that influence the intended imposition of a form of homicide coded as Y35.5 (Legal Execution) in the *International Classification of Diseases, Tenth revision* (ICD-10) (World Health Organization, <http://apps.who.int/classifications/apps/icd/icd10online/>). The current presentation goes beyond a general overview to deconstruct the data in a manner that, in light of general beliefs about administration of the death penalty, reveals patterns of sentencing from some selected factors in death cases that are both expected and perhaps not so expected.

Capital Punishment in North Carolina

The information in this and the next section were presented last year, but are replicated to provide a better understanding of the context of the study. In 1976, the U.S. Supreme Court's decision in *Gregg v. Georgia* (1976) affirmed the constitutionality of death sentences as a criminal sanction, if operating within specified parameters. With that guidance, North Carolina adopted a bifurcated trial system that mandates separate guilt and penalty phases. In order to qualify as a murder subject to the death penalty ("capital murder"), the state must convince the jury at the penalty phase that at least one of 11 aggravating circumstances existed in conjunction with the murder. The defense is allowed to present an unlimited number of mitigating evidence that asks the jury to take each factor into account in setting a sentence; the defense's presentation must include the mandatory submission of any eight statutory mitigating circumstances that are thought to exist. The jury retires after the prosecution and defense presentations and is required to complete an *Issues and Recommendations as to Punishment* form in which they provide written responses to whether they accept each of the aggravating and mitigating circumstances listed on the form. Their deliberations conclude by offering a binding recommendation for a death sentence or life in prison, the latter currently without parole. Death sentences are automatically appealed to the North Carolina Supreme Court while life sentences must be appealed to the North Carolina Court of Appeals prior to state Supreme Court review. As of April 2010, North Carolina ranked 6th in the number of individuals on death row (167), 9th in the number of executions since 1976 (43), and 10th in the number of death sentences per 10,000 population (.047) (Death Penalty Information Center, <http://www.deathpenaltyinfo.org>). However, although death penalty trials continue, North Carolina is currently in a self-imposed moratorium on executions, and has not had an execution since August 2006.

The North Carolina Capital Sentencing Project (NCCSP)

The NCCSP is a data collection effort beginning in the late 1990s to identify and code aspects of all capital murder trials in North Carolina; Beth Bjerregaard and Sondra J. Fogel are co-investigators (see Earl, Cochran, Smith, Bjerregaard, & Fogel [2008] for a detailed description of the project). The lack of any centralized state record of capital murder trials made the task challenging, and required a review of all first-degree murder convictions for the time period of the study to determine if they had been tried capitally. This was accomplished through reviews of appeals materials, newspaper articles, case files in the trial county. In the initial stages of data collection, it was determined that a number of errors existed in first-degree murder lists generated by state agencies, so multiple efforts and cross-checking were necessary to make a full determination of first-degree murder cases in which the death penalty was sought by the state.

Extensive efforts have led to confidence that a population of capital murder jury recommendations during 1977-2008 have been identified. The result is a database of 1,350 cases in which a jury was asked to recommend a life or death sentence. Details of these cases were gleaned from appeals case documents, original trial documents, and newspaper articles concerning the trials. Demographic information for defendants was obtained from the North Carolina Department of corrections website (<http://webapps6.doc.state.nc.us/opi/offendersearch.do?method=view>) and death certificate information for victims was gathered through cooperation of the North Carolina Medical Examiners Office. Because each jury recommendation was treated as a unique decision, the database includes both original trials (n= 1,222) and retrials (n=128, of which 102 were sentencing phase only), multiple offenders for a single victim, and single offenders with multiple victims. At the individual level, the data covers the trials of 980 defendants convicted of the murders of 1,099 victims. All varieties of murders are represented in the dataset, including those of felony-related murders, domestic murders, murder for hire, serial killing, and mass murder.

Previous work with earlier versions of the NCCSP dataset that have employed complex models reveals that predictors of death sentencing are complex and nuanced (Bjerregaard, Fogel, Smith, & Palacios, 2010; Kremling, Smith, Cochran, Fogel, & Bjerregaard, 2007; Stauffer, Smith, Cochran, Fogel, & Bjerregaard, 2006). Generally, with all other factors held constant, the number of aggravators accepted is the most powerful predictor of being assessed the death penalty, along with whether the victim was female; a young age of the defendant serves as a deterrent to death sentencing. Neither race of the defendant nor race of the victim emerge as consistent predictors. Work continues with is now considered to be a complete population of cases to determine the more subtle relationships among factors that appear correlated with jury decision making. The results discussed here are part of that effort.

Results from Selected Case Characteristics

Any number of beliefs exist about administrations of the death penalty concerning the types of cases likely to generate a jury recommendation for executing the defendant. Practically speaking, there are case characteristics where it would be commonly assumed that, if these were present, a majority of defendants would be assessed the death penalty. While the variables selected in Table 1 hardly exhaust those possibilities, they touch on several areas that have appeared in on-going work with our death penalty dataset. Highlights from that table are presented in the discussions of descriptive data that follow. As a clarifying note, the term "case" is used here to mean a sentencing phase trial for which the jury rendered a recommendation for the death penalty or life in prison.

Victim Characteristics

As shown in Table 1, the overall percentage of death sentences recommended during the period covered by the data was 42.5%, a figure that will serve as a reference for patterns of death sentencing in cases with specific characteristic. The first of these that we explore is that of having a **female victim**, a variable found to be among the most consistent and powerful predictors of defendants receiving a death sentence, one with a difference from cases with male victims that is statistically significant. A question, however, is whether this effect remains if cases are removed that contain another powerful predictor of death sentencing, that rape has been accepted as an aggravating circumstance, a case characteristic found only among female victims. The answer is yes – the difference remains statistically significant manner from death sentencing in cases with male victims (see NOTE at bottom of table).

Regarding the **age of victims**, a common assumption is that cases involving the murders of children (defined here as age 12 or younger) and elderly victims (age 65 and older) will evoke greater jury outrage, resulting in escalated levels of death sentencing. Overall, this true for younger victims, but it is noteworthy that none of these age categories show death sentencing above 50%. Perhaps surprisingly, defendants with elderly victims receive death sentences virtually in the same proportions as all cases.

Assumptions regarding **victim-offender relationship** would dictate that victims who are strangers to their murderers will tilt juries toward death sentences. As shown in Table 1, that is not necessarily the case. Surprisingly, a casual acquaintance relationship generated the highest proportions of death sentences, and is statistically significant from cases with other victim-offender relationships. It is also noteworthy that offenders who murdered their intimate partners were not recommended for death sentences in proportions lower than other cases; in fact, they were slightly higher than in cases where victims and offenders were strangers.

It would seem commonsense that death sentencing would increase with the **numbers of victims** for whom the defendant is on trial. The patterns shown in Table 1 suggest this is true for defendants with 2 or 3 victims versus 1 victim, but neither of those exceed 50% of death sentences. However, several mass murder events embedded in the data yielded surprisingly few death sentences. Among the 26 victims of mass murder – cases involving 4 or 5 (apologies to those advocating 3 as the definitional point for a mass murder) victims – only 6 resulted in death sentence recommendations. In contrast, one defendant, a serial killer, was found guilty of the murder of 9 victims and sentenced to death for all of them.

Last, it is widely believed that “cop killers” are doomed to a death penalty if brought to trial. The results of capital murder trials in North Carolina involving **law enforcement officers** killed in the line of duty do not bear out this expectation. Of the 40 trials of this nature, just barely half resulted in death sentences being recommended.

Offender Characteristics

Turning to characteristics of offenders, two aspects of the trial are explored – the number of aggravators and mitigators accepted by the jury, crucial legal factors that are to be taken into account in sentence determinations. Noting that the base for percentage calculations regarding **aggravating factors accepted** change to 1,282 because of missing data¹ among these variables, the results in Table 1 are subject to multiple interpretations. First, it can be seen that juries in 76 cases (6% of total) rejected the prosecution’s arguments regarding aggravating

factors, resulting in a default sentence of life in prison. Cases with only 1 aggravator accepted resulted in a notably low percentage of 28.6% cases being recommended for death. The percentages jump considerably after that, suggesting that having 2 aggravators accepted is a tipping point, but even then, the percentage is 51.8%, less than many might assume. The chances of receiving a death sentence climbed substantially once 3 aggravators were accepted, resulting in nearly 2/3 of cases receiving a death sentences with further levels of aggravation. Yet, some might note that among cases with high levels of aggravation, including 5 or more, 1/3 of cases *did not* receive a death sentence, a finding that many would consider counterintuitive.

The final factor to receive attention is the number of **mitigating factors accepted** by the jury, a factor with a reduced base of 1,131 because of missing data (see Footnote 1). Due to the broad range of mitigators accepted (0-111), the presentation in Table 1 has been condensed to only a handful of levels. As seen there, a jury accepting few mitigators did not bode well for the defendant, varying from 91.9% death sentences for those with 0 mitigators accepted to 59.9% with acceptances in the range of 1-7. A break point appears to occur for 8 mitigators accepted, where death sentences dropped to 33.3% (not shown). That pattern held for subsequent levels of accepted mitigators, with death sentences assessed in well below 50% of cases. However, there were some exceptions. Not shown in the table were levels of mitigator acceptance above 8 that still yielded death sentences at or greater than 50%. These were 10 (52.2% [n=46]), 25 (55.6% [n=18]), 30 (50% [n=6]), 32 (100% [n=1]), and even 111 (50% n=2).

Overview

The results serve to again illustrate the complex nature of capital punishment decisions. As shown in the foregoing discussion, what might be thought of as common sense is not so common when considering death penalty decisions. There are indeed some expected general patterns, but when deconstructed, patterns are revealed that would not be commonly assumed. The policy implication is that juries undoubtedly struggle with a host of factors when reaching their decisions, yielding patterns that are not easily predictable. Indeed, deconstructed analyses of data from the North Carolina Capital Sentencing Project arguably yield more surprises as to who *did not* receive a death penalty recommendation versus to those who did. Overall, this fact points to the difficulty of legislating what some would advocate should be a somewhat standardized set of outcomes largely devoid of particularistic decision making. Undoubtedly, the legal debate will continue whether this form of sanctioning should be allowed to continue in if it cannot meet this standard.

Footnote

1. Data for aggravation and mitigation were missing primarily because juries did not complete the *Issues and Recommendation as to Punishment* form on which aggravation and mitigation is responded to. This was a total of 68 cases for aggravation and 219 for mitigation. Regarding the latter, juries were not required to complete the mitigation section if they did not accept any aggravating factors. Also, there were a set of cases in the early years (1977-82) of North Carolina's contemporary death penalty statutes in which juries did not indicate their acceptance or rejection of individual mitigation factors; paraphrased, the question was posed as "do you accept any of the following mitigating factors?". Consequently, these cases could not be included in mitigation analyses unless the jury indicated that no mitigators were accepted. As an important methodological note, cases in which aggravation and mitigation data are missing are heavily skewed toward cases in which the defendant received a sentence of life in prison; consequently, death sentences are actually overrepresented in these subsets of analyses.

Table 1. Percentages of Death Sentences in Cases with Selected Characteristics

Case Characteristic	Percentage Death Sentences
All cases (N=1,350)	42.5
Victim female (n=550)	49.8*
Victim female w/o rape aggravator (n=463)	44.5*
Victim age	
12 and younger (n=76)	48.7
13-20 (n=175)	49.1
21-64 (n=888)	40.8
65 and older (n=211)	42.2
Victim-Offender relationship	
Intimate partner [includes "ex"] (n=151)	42.2
All other Family (n=125)	41.9
Acquaintance/Friend (n=241)	38.3
Casual Acquaintance (n=350)	47.1*
Stranger (n=484)	41.5
Numbers of victims for whom death penalty sought	
1 (n=909)	39.7*
2 (n=328)	48.8*
3 (n=78)	48.7
4 (n=15)	26.7
5 (n=11)	18.2
9 (n=9)	100.0
Victim was law enforcement officer (n=40)	52.5
Numbers of aggravators accepted by jury (n=1,282)	

0 (n=76)	0.0
1 (n=465)	28.6*
2 (n=388)	51.8*
3 (n=219)	68.0*
4 (n=95)	67.4*
5 or more (n=39)	66.7

Numbers of mitigators accepted by jury (n=1,131)

0 (n=86)	91.9*
1-7 (n=451)	59.9*
8-19 (n=485)	35.2*
20-29 (n=109)	30.3*
30-111 (n=47)	25.5*

* $p \leq .05$ when calculated as difference from all other cases (Difference in Proportions test)

NOTES: Statistically significant differences ($p \leq .05$) within categories: (1) Victim female w/o rape aggravator from Victim male [37,5%]; (2) Victims aged 13-20 from 21-64; (3) Acquaintance/Friend relationship from Casual Acquaintance; (4) 1 victim from 2 victims; (5) 1 aggravator accepted from all other categories; 2 aggravators accepted from 3 and 5; (6) 0 and 1 mitigators accepted different from all other categories.

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Homicide Free: Exploring the Intervals Between Killings

By: Dallas Drake, Jessica Proskin, and Charles Crain

Homicide-free Zones

Across the United States, cities, counties, precincts, and neighborhoods are recording their first homicide-free months or years in decades. This is due in large part to the overall reduction of homicides, known as the crime-drop.¹ For example, Newark, NJ experienced 37 days of being homicide-free in 2010. This was first time since 1966 that Newark had seen a calendar month go by without a homicide.² In 2007, San Diego's longest stretch (39 days) of being homicide-free, ended. It was the longest span of homicide-free periods that San Diego had experienced in five years.³ Even in what we might consider dangerous cities, homicide-free areas can be found. New York City, in 2008, had three precincts that ended the year with zero homicides.⁴

Until now, homicide has always been measured by point measure, i.e., recording and counting the occurrences of homicide incidents. In a sense, this is a negative way of perceiving the homicide problem. We can focus instead on success rather than failure by looking at the spaces between homicide incidents, and use this new measure of the homicide incident *interval*. This is the temporal distance, in days, between two homicide incidents. When two killings occur in a single day, we say that the interval is zero. The larger numbers indicate a healthier community. When enough intervals link together successively, this space can then be referred to as a homicide-free space, or zone. This new measure of homicide is inspired by the idea of the FBI's time-clock which illustrates that every few minutes, x number of crimes occur.^{5,6} Intervals provide a way of helping readers or viewers imagine the severity of various crime problems by grasping their temporal proximity. They have also been studied on occasion in other crimes such as robbery, rape and serial homicide, but not in depth. The purpose of such inquiry was uniformly investigative.^{7,8}

Given the entrenchment of homicide, focus must increasingly be kept on successes rather than failures. When jurisdictions experience a homicide-free period, the interval concept allows us to demonstrate that homicide is not a natural state, and that it is indeed preventable. It is possible to be homicide-free. If homicide is ever to be prevented, we have to change the way we think about the overall problem.

While not all homicide-free intervals are the result of a prevention intervention, something indeed seems to be working. For smaller intervals, less than two weeks, the interval could simply be the result of a correction over time. For greater intervals, a homicide-free zone might be declared and subsequently analyzed for causative clues.

Types of Homicide

There are many varieties or types of homicide.⁹ When considering increases, decreases, or prevention strategies, the first question is to inquire as to what type of homicide is being examined. These types can fit into what are called homicide syndromes. Many violent processes can lead to a homicidal end, yet all are quite unique. Their only commonality is the death of one of the actors. When asked about homicide, one should always respond: "Which kind?"

Similarly situated is the consideration of which types of homicides are the driving force in the homicide rate. Which variety is increasing or decreasing *most significantly*, or leading to the greatest change overall. For efficiency, the majority type of homicide should be targeted first for intervention, significantly impacting the choice of preventative strategies to undertake.

This analysis includes homicides from two jurisdictions, Flint, Michigan and New Orleans, Louisiana. The Police Chief of Flint indicated that most homicides in his city were the result of, "drugs and gangs".¹⁰ The FBI recently issued a report on 2009 homicides that 29% of homicides are drug-related.¹¹ Drug homicides are a *motivational* type of homicide. Only 1% of homicides involved anyone identified with a gang. Revenge, also a motivational type, involved 24%. Data available to CHR researchers typically does not include this level of detail. Analysis of whether any other types of homicide are increasing or decreasing would be of more importance and are considered herein.

Law enforcement is a reactive form of help, measured in response-time, it is not intended to *prevent* street crime. Strategies enacted to address the problem are likely to be targeted toward street-crime homicides. *Police* strategies to reduce homicide can best be constructed wherein some form of arrest can be initiated which, is more within the domain of active policing. Researchers would not expect these strategies to have much impact on child homicides, nor on intimate-partner homicides. The remaining question rests on determining the probable cause for such arrests.

Role of Contagion

As is common with many instances of drug and gang homicide, one bad event often leads to another. This might occur through a motive of retribution or revenge.¹² When this occurs, one could say it is an example of homicidal contagion, the connotations of which emerge when considering the epidemiology of violence. In the early discourses of homicide prevention, a model of medical epidemiology was used to envision how homicide might be prevented.¹³ It was here that the idea of epidemic and contagion were first introduced.

Epidemic describes a larger than expected number of occurrences, often thought of as widespread. The process of how and the speed by which a behavior spreads are both described by the term contagion. Used in homicide parlance, *contagion* is the spread and rapid growth in incidence of homicidal interactions. Homicide is facilitated by a “contagious process of contact or interaction” between its actors. An “infectious agent” spreads the behavior from one person to the next, and this occurs within the context of a social network.¹⁴ This network can easily be thought of as a criminal gang.

Two conditions increase the likelihood of contagion. Contagion is more likely to occur when there is low or absent social control, such as is commonly found in areas of concentrated poverty and resource deprivation.¹⁵ It is also more likely to occur when a third party is present during the homicide event.¹⁶ This is often due to the role of rival gang revenge. That third party might be an actor, a witness or a bystander.

Contagion can be recognized by searching for a sharp rise or fall in the number of homicides. This would result in “a rate far beyond what would be predicted by exposure to some external factor.” Secondly, “the phenomenon is endemic to the people and places where its occurrence is highest and that this behavior may be effectively passed from one person to another through some process of contact or interaction.”¹⁷

Homicides in Flint, Michigan appear to match the definitions of homicide contagion. This is supported by the frequency and speed of increase in 2010, but they also match process markers of contagious homicide such as use of firearm weapons, youthful actors,¹⁸ and a contextual factor of low social control.¹⁹ New Orleans homicides are similar in these factors as well, but with a dramatic change in the last third of the year.

Understanding the mechanisms of contagion and the various processes involved in weapon use can provide us with a clearer picture of where an intervention might be plied. For instance, gun behaviors (adapted)²⁰ include:

1. seeing someone or knowing someone with a gun
2. looking for a gun in one's own house
3. trying to obtain a gun
4. flashing a gun when trying to threaten or scare
5. using the gun for pistol whipping
6. firing the gun to scare, without aiming to hit
7. firing the gun toward someone
8. firing to injure, but not to kill
9. firing to kill

To help assess for these factors, data might be obtained from the police department to include weapons calls, shots fired calls, and aggravated assault calls.

Research Questions

The following research questions have been proffered for this investigation:

1. What can interval measures of homicide tell us about the overall homicide problem?
2. What type of homicide is driving the high homicide rate?
3. What can be done to reduce the current high homicide rate?
4. Are any identifiable homicide-free zones?

Methodology

The strategy for this analysis is descriptive statistics and pattern identification. The Center for Homicide Research obtained published data from The Flint Journal and New Orleans Times Picayune to construct a simple dataset. Additional cases were identified and added to the dataset, using open source data collection and a New Orleans cumulative list from St. Anna's Episcopal Church. The resulting dataset is limited to 10 variables, although it could easily be expanded.

Data was cleaned of errors. For instance, some cases were researched to determine the true date of the assaultive injury. This was necessary because the date a body was discovered has little theoretical significance for investigating patterns for homicide prevention.

The level of analysis chosen for this evaluation is the victim. This was because the difference between victims and incident level results were barely perceptible. Only two double-homicides occurred in Flint during the period under investigation and these did not markedly impact the results.

During 2010 a serial offender was discovered to be operating in the city of Flint and elsewhere. There was concern that the serial killings might appreciably change the data, driving the homicide rate up. While there was some change to the homicide rate, it did not significantly impact overall results. Similarly, there were several multicides in New Orleans, and some could be labeled serial. We are still in the process of analysis at the time of this printing.

After plotting of the intervals and adding a trend-line, a qualitative analysis will be used to try to explain any abnormalities. This will be done for both aggregate and disaggregated data. The data will also be inspected for signs of contagious cycles.

Results

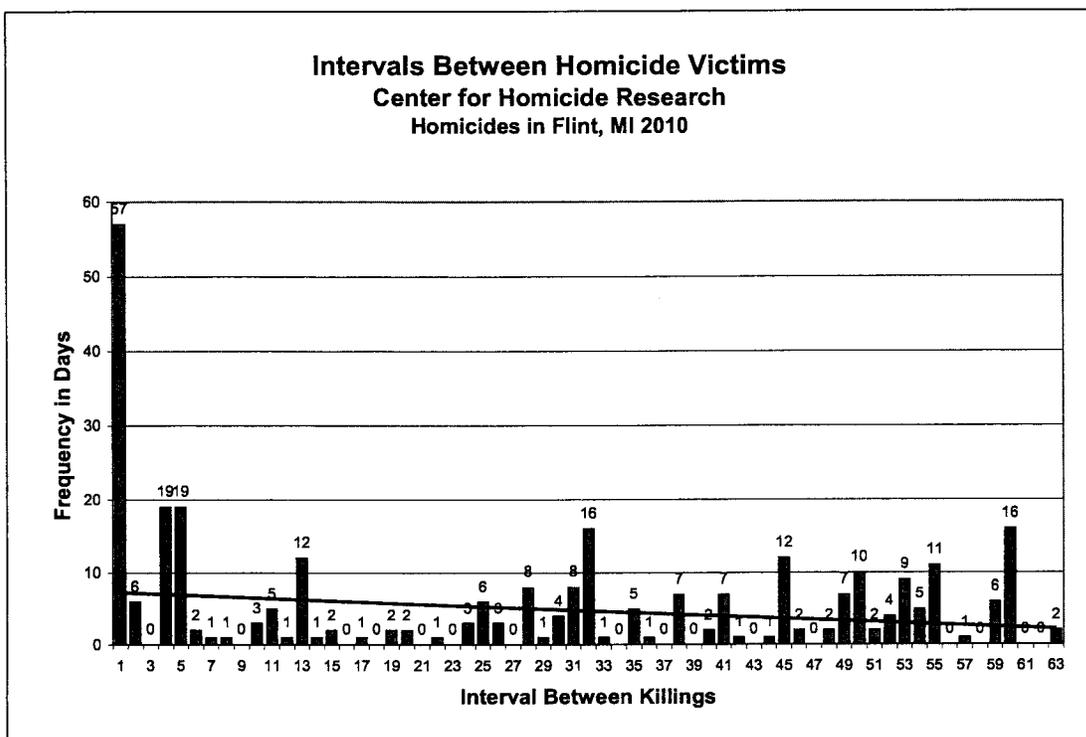
The following results are for Flint only. The results of New Orleans data will be presented at the HRWG Meeting in New Orleans.

This study identified 65 homicides of which 63 were criminal and two were justifiable homicides, occurring in Flint. Justifiable homicides are routinely reported along with criminal homicides according to the FBI's Uniform Crime Reporting System. One correction made to the data was to add in a homicide that occurred in Flint, but the series of events leading to the homicide began in an adjoining township.

Most of the homicide victims (83%) were male. Seventeen percent of victims were female, with none missing. Race is not a variable for which we collected data though with police reports or department cooperation, this might be possible at a later date.

Because of the limitation of our data we choose to focus on geographic and temporal characteristics of the homicides. To do this a homicide free interval was used as the measurement, as outlined earlier in this report. The homicide points were plotted on a calendar and then the days between homicide victimizations were computed. The result is pictured in chart 1.1 below. A trend line was added to illustrate the rolling average from the beginning of the year to the end.

Chart 1.1 Intervals Between Homicide Victims

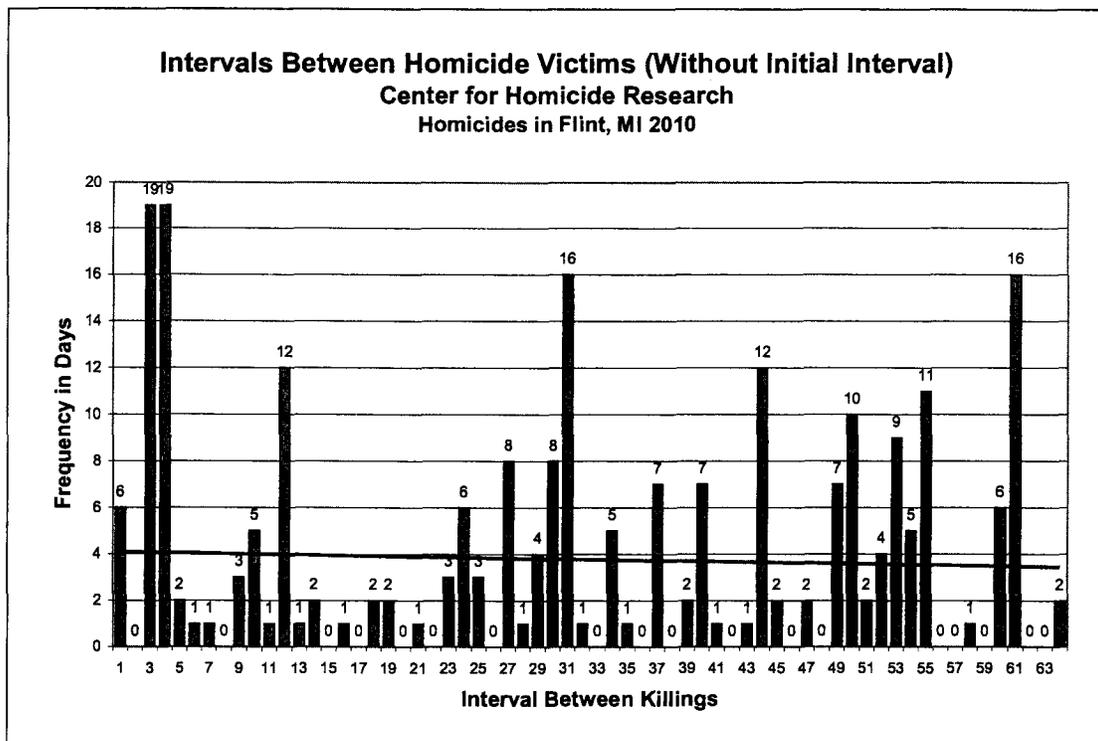


In the calendar year 2010, no homicides occurred until February 19, 2010. For this analysis we used an initial incident which occurred December 22, 2009. We started on this date in order to show that a significant period of time occurred wherein Flint was homicide-free. The results can be seen on Chart 1.1 above.

Flint experienced a period of time where the city was homicide-free. This homicide free zone demonstrates that being homicide free is possible. It also is a starting point for the next wave of homicides. Although a significant event, it appears as an outlier when we consider the rest of the year. Once this outlier is removed, we see that the period between homicides remains relatively constant with only a slight decrease. The results can be seen on chart 1.2.

If we fail to exclude it as an outlier, it appears that the city is becoming more dangerous as the year progresses, with shorter and shorter intervals emerging between homicides.

Chart 1.2 Interval Between Homicide Victims, Without Initial Interval

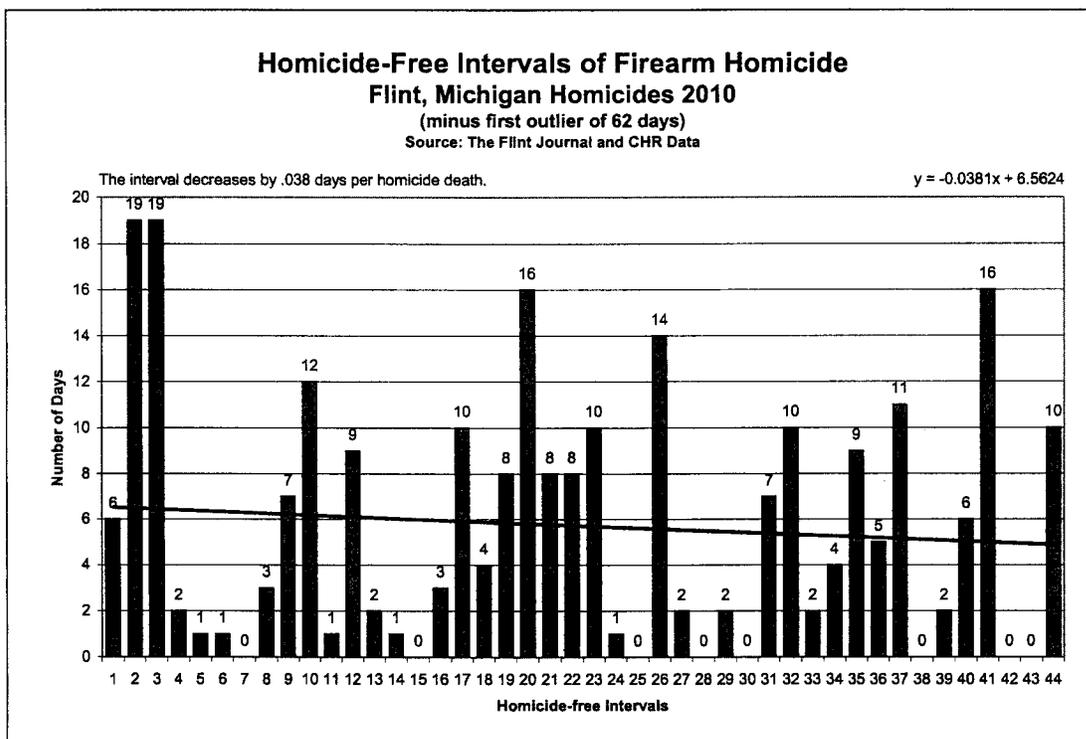


Concerning the inclusion or exclusion of the victims of the serial killer, the results between the two options were nearly imperceptible. Incidents that were the result of serial offending did not appear to impact our analysis significantly. The reason for this is that the serial offender struck in several instances on days when a homicide had already occurred.

When evaluating the data for patterns, and given the constraints of the data at our disposal, it appears that the wave of homicides beginning on February 19, clearly illustrates the concept of contagion. Identifying contagion is useful in that it specifies an opportunity for prevention.

The following reasons are offered to support the assertion that contagion is present. First, the contagious wave was preceded by a homicide free interval that was large in scope and evident of a steady state. Second, the increase in homicide incidents was greater than expected, signaling an epidemic, or incidents that built up rapidly over time. Third, the driving force behind the homicide-rate is firearm homicide as identified in the mechanism of contagion.²¹ (see comparison between charts 1.3 and 1.4)

Chart 1.3 Firearm Homicide-free Intervals (Without Initial Interval)

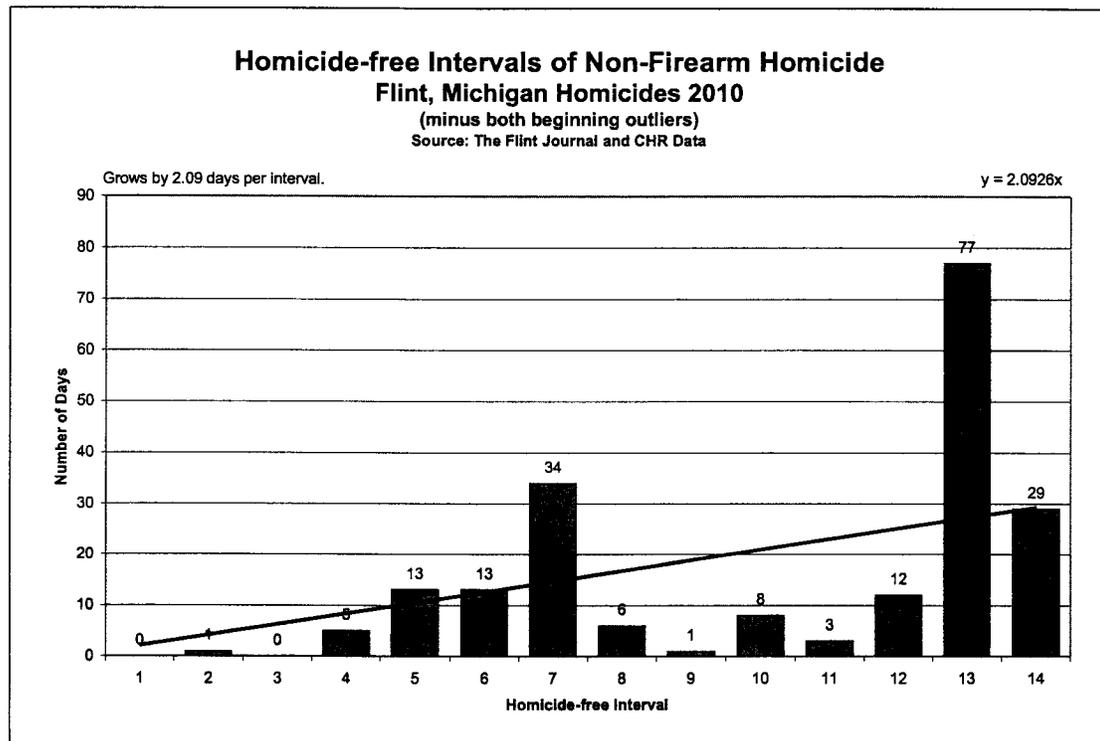


One of the defining characteristics of homicide contagion is the identification and presence of a contagious agent. Researchers have identified this agent to be a firearm weapon.²² Chart 1.3 shows that firearm homicides contain the bulk of the contagious distribution and bulk of the homicides in total (51). Firearm homicides over the course of the year are occurring with fewer homicide-free days between events, while non-firearm homicides (see chart 1.4 below) are showing an increase in the number of days between events over the time-series of 2.09 days per interval. This means that there are not simply more firearm homicides, but they are increasing in prevalence as time passes.⁵

⁵ The non-firearm data contains three firearm homicides that appeared to not be street-crime homicides.

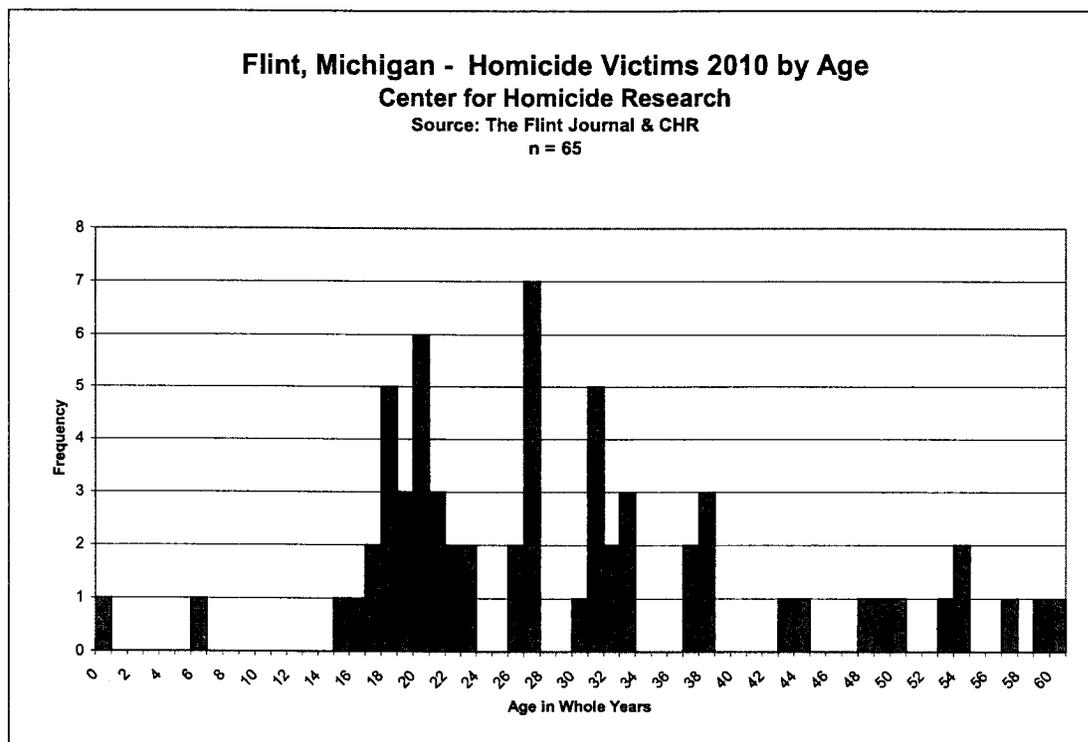
In observing the chart 1.3, there appear to be cycles within the data. These cycles are bounded by large intervals on both ends with low intervals of zero, one, or two in the middle of the cycle.

Chart 1.4 Homicide-free Intervals of Non-Firearm Homicide



Fourth, the predominate age distribution of these victims is heavily weighted by juveniles and young adults (see chart 1.5 below). These are the same individuals who are vulnerable to the social influence of peers as they struggle to forge their adult identity and seek to elevate their social statuses. The average age of victim is 19.9 years and the median is 32 years. Although the age band is not as narrow as that specified by Rowe and Rogers (1984),²³ age is only one diagnostic factor to consider. Victim data was used as a proxy for offender data since so many offenders remain at-large and offender age was difficult to obtain. This can be done since victims and offenders tend to come from the same social group. An analysis of the FBI's Supplemental Homicide Reports reveal that homicide offenders are on average of 5.9 years younger than their victims. The median age difference (resistant to outliers) shows that offenders are five years younger than victims. An analysis of identified offenders will be attempted as time permits.

Chart 1.5 Homicide Victims by Age of Victim



Conclusions for Flint

The citizens are experiencing an epidemic of homicide that has surpassed its 1986 record of 61 homicides due in large part to a process of contagion. The mechanism of that process is the presence of a firearm weapon within a dangerous ecological environment. It is also clear that the 1986 record might not have been breached if not for the simultaneous operation of a predatory serial homicide offender within the Flint area. These killings exacerbated the already high homicide rate. It is also true that this offender capitalized on a symbiotic relationship²⁴ between himself and an already elevated homicide rate. It provided the killer a certain degree of cover for his criminal activities.

Secondly, data shows the temporal interval between homicides is decreasing slightly, but with an already high rate of killing. This means that the killings are becoming slightly more frequent while the rate of killing is quite high and lends support for the claim that an intervention, or interventions, is called for and should occur quickly. Leaders should take heart from the identification of various homicide-free intervals, and use those to their advantage in addressing the problem.

The type of homicides that appear to be driving the high homicide rate are firearm homicides. This is typical in many American cities and comes with an already identified promising array of interventions. Cycles of killing are evident when observing the firearm

homicide data. These cycles are bounded by a high interval on either end of the cycle and a low point in the center.

The high homicide rate is only slightly the result of extenuating circumstances (such as outliers), such as multicides or serial homicides. The serial homicide is being dealt with. An arrest has been made, the offender charged and a trial scheduled. Homicide-free zones have been identified. These are the quiet times preceding outbreaks of contagious violence and one was detected at the start of the year of 57 days. The Center for Homicide Research can provide information and referral about the particulars of such an intervention strategy.

The foregoing is a cursory analysis of Flint's homicides. Leadership within the city including the Mayor and Chief of Police are right on target. The Center for Homicide Research is interested in further evaluating Flint's homicide problem and could better do so with access to official police data. It seems that researchers could then better answer a number of pressing questions in support of the city's mission to address their crime problem.

A portion of this paper was previously published as a research report used to analyze homicides in Flint, Michigan. It has been modified with data from New Orleans, Louisiana, along with a more theoretical base for describing the use of interval measures and by more clearly identifying opportunities for homicide intervention.

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Session VII – Serial Murder

Jekyll and Hyde: The Double Life of a Serial Killer

**Rachel Rados
University of Central Florida**

This presentation details one unusual case in which at least five murders were committed in Indiana and Florida. The life and crimes of this offender, Carl Brandt, demonstrated the vast amount of knowledge law enforcement and the general public were lacking. Brandt's background, his motivations, as well as how long he had concealed his true self from society, family, and friends brought to light the inability for society to recognize dangerous individuals. Carl Brandt was a family man, a dedicated employee and a serial killer. The report will illustrate Brandt's life, his psychological evaluations and then ask the question, how does a serial killer not only blend into society but actively partake in society without being detected.

Lethal Ladies: Exploring a Broad Classification of Female Serial Murderers

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University of New Haven*

When the term serial murder is used, most people think of male offenders. Images of Ted Bundy, Jack the Ripper, and other male murderers spring to mind, as these stereotypes have been perpetuated by the media. Until the last decade, academics and practitioners have also supported this myth that only males can be serial murderers (Egger, 1984; Jenkins, 1994), however, there exists a population of female serial offenders as well. Female serial murderers (FSM), as individuals, may have attracted attention when their crimes were initially discovered, but they then seemed to fade into history. This paper will explore the theoretical and empirical support for the use of victim-offender relationship, rather than motivation, as the foundation of a broad classification system for female serial murders (Farrell, 2006).

Background

Female offenders have been excluded from classic definitions of serial murder (Egger, 1984, 1985; Hickey, 2006; Jenkins, 1994), however, while women who commit serial murder are very rare, they do exist and should therefore be recognized. While recent scholarship has acknowledged that females can be serial murderers (Burnley, Edmunds, Gaboury, & Seymour, 1998; Ferguson, White, Cherry, Lorenz, & Bhimani, 2003; Hickey, 2006; Morton & Hilts, 2006; Morton & McNamara, 2005), narrow, limited definitions exclude females from consideration in most existing typologies of serial murder. Of the typologies advanced for the classification of serial murderers, only two considered females as serial murderers (Holmes & Holmes, 1994; Kelleher & Kelleher, 1998), yet both utilize motivation as the primary basis for differentiation of offenders. Motivation, which is both highly complex and subjectively interpreted, is not an adequate

variable upon which to base a typology (Farrell, 2006; Ferguson, et al., 2003), reinforcing the need for a typology based upon less subjective constructs.

Although there are challenges and limitations associated with data collection in this area (Jenkins, 1994; Morton & McNamara, 2005), some may argue that the rarity of female serial murderers would make empirical research on these offenders a low priority (Scott, 2005) because they are such a small subgroup of rare criminals (Kraemer, Lord, & Heilbrun, 2004). Similar to Keppel and Weis' (2004) justification for their discussion of the rarity of unusual body dispositions, these cases are ones which many investigators may never encounter. Investigators who do encounter an FSM, without scholarship on these offenders, will likely be left without an available wealth of investigative experience or knowledge to draw upon. Therefore, research on even the most rare of crimes is necessary to provide investigators facing these crimes as much information as possible to aid in offender identification, prevent linkage blindness, and provide other pertinent data that may shape the investigative process.

Ferguson, White, Cherry and Bhimani (2003) address the complications inherent in basing a definition of serial murder on motivation, the foundation for both the Holmes and Holmes (1994) and the Kelleher and Kelleher (1998) typologies. Motive, while important, can be difficult to discern completely and accurately, often allowing for some subjectivity on the part of the researcher conducting the analysis to influence how motivation is defined and captured (Ferguson, et al., 2003). Skrapec (2001) notes that, while one can know the objective behaviors that occurred at a crime scene, this knowledge alone does not provide a foundation for determining the offender's motivation. Skrapec (2001) also finds fault with traditional profiling or typology efforts, noting that serial homicide tends to be treated as an objective event when the key to understanding motivation lies in understanding how the offender experiences the crime as a subjective experience.

These discrepancies regarding the objective versus subjective basis of typologies lay a foundation for conflicting typologies and increase the potential for conceptual and operational discrepancies between typologies. Busch and Cavanaugh (1986) argue that links between psychological characteristics or other types of criminology, including typologies, are based upon limited empirical evidence, raising questions as to their reliability and validity. Mott (1999) states these crimes encompass complex behavior

with numerous causes and a lack of homogeneity among offenders. Although the amount of subjectivity in coding may be limited with the use of certain types of data, such as psychiatric reports or case files, it must be acknowledged that neither Holmes and Holmes (1994) or Kelleher and Kelleher (1998) specifically identified their materials. In addition, Ferguson et al (2003) raise the critical point that each homicide should be considered as a discrete event and that it cannot be assumed that motivations are continuous or similar from one homicide to the next. Further, even though an offender may attribute one or multiple motivations to his or her own actions, reliance upon offender self-reports may be undermined by the offender's motivation in discussing the criminal act, such as attempting to minimize their involvement or to generate shock and horror among the general public (Ferguson, et al., 2003). Each of these concerns regarding the role of motivation in both defining and classifying female serial murderers clearly has merit in the discussion and evaluation of both Holmes and Holmes' (1994) and Kelleher and Kelleher's (1998) typologies of FSM and illustrates the problems associated with utilizing motivation as the primary criteria for offender differentiation. To use a construction analogy, motivation is like sand; there are several legitimate uses for it in the process of erecting a structure, yet sand is not an adequate material to serve as a foundation.

The aim of the current study is to determine if the data empirically support differentiating offenders based upon a broad classification of victim-offender relationship, and what incident level characteristics, if any, are associated with each classification. This study will test the possibility of differentiating these homicides into the categories based upon victim selection. The data has been analyzed through the use of descriptive statistics, bivariate correlations and multivariate analyses, specifically binary logistic regression and multiple dimensional scaling (MDS).

The FSM dataset contains information on 141 individual homicides committed by 24 offenders. The majority of the offenders were white (n=20), committing their crimes between the ages of 16 and 58, with an average age of 42 years when their crimes were discovered. On average, each offender claimed approximately 8 victims. Offenders were not charged in 55.3% (n=78) of the homicides. Also, ten offenders committed their crimes prior to 1960, with the remaining offenders committing their crimes after 1960.

Broadly classified, 60.5% (n=84) of the victims were of close personal connection to the offender, to include their own children, spouses, lovers, parents and siblings.

Approximately 5% (n=7) of the victims were considered friends, 28.8% (n=40) were acquaintances, and 5% (n=7) were strangers. Over half of the victims in the sample were related to the offender (58.3%, n=81).

Based upon the available information, ninety-three of the homicides in the dataset could be attributed to 16 hearthside offenders, while 36 homicides were credited to six occupational offenders and 10 homicides, committed by two offenders, were classed as other. The category of other was created to capture information about offenders that did not align with either the hearthside or occupational categories (Farrell, 2006). Of those offenders who met their victims through their occupations, four were employed as nurses, two as nurses' aides or companions to the elderly, one was engaging in prostitution and the last occupational offender was running a rooming house out of her home. Of the 24 offenders, only two could not be assigned to either the hearthside or occupational category. This determination was made by running a crosstabs analysis between the variables of offender name and victim selected through personal contact. Based upon the homicides included in the dataset, 23 of the 24 offenders selected victims from only one sphere or the other, with Velma Margie Barfield being the only offender who chose victims from both spheres. Despite the fact that Velma Margie Barfield was the only offender in the dataset to choose victims from both spheres, there were two offenders whom the authors felt could not be reliably classified. This was because there was a large amount of missing information on multiple homicides to reliably assign them to a category (Jane Toppan) or there was a potentially mitigating issue, such as a drug addiction, that may have led to choosing victims from both the personal and professional realms of their lives (Velma Margie Barfield).

The results of the analyses conducted suggest that there is merit in classifying FSMs based upon victim-offender relationship. There are several significant correlations that involve victims personal to the offender, including the age of the offender, if the victim was an infant, child or elderly, how the victim was killed, and whether the offender benefitted from the crime. These significant correlations suggest that FSMs can be differentiated by the victim pool from which they select their targets. Additionally,

the binary logistic regression models demonstrate that victims personally connected to the offender can be statistically distinguished from those professionally connected to the offender, thus providing further support for the use of victim-offender relationship as a basis for classification and for the use of two broad categories to capture this relationship. Furthermore, the SSA demonstrates that not only can FSMs be differentiated based upon a broad classification of victim-offender relationship, but that there are incident level characteristics that co-occur with the hearthside and the occupational categories. The fact that all empirical analyses conducted are both significant and share similar results has produced empirical triangulation, supporting the research hypothesis that the use of victim-offender relationship is quite a reliable basis for offender differentiation.

Further, as acknowledged by the authors and previous studies (Busch & Cavanaugh, 1986; Canter & Wentink, 2004; Farrell, 2006; Ferguson, et al., 2003; Kraemer, et al., 2004; Mott, 1999; Skrapec, 2001), motivation is important in the analysis of FSM, but is not an optimal basis for differentiation. This can be seen most clearly in the SSA plot, where there are observable motivational themes, but the differentiation between those themes is not as distinct as would be ideal for differentiation. Motivation, in terms of classifying offenders, is shown to be more effective for identifying subgroups within the broad classification categories of victim-offender relationship. With the exception of two offenders, the influence of the doctrine of separate spheres (Lamphere, 2001; Reskin & Padavic, 1994) is clearly applicable in the discussion of FSM, in that FSMs choose their victims from either their private sphere (n=16)—to include friends, family, and lovers—or their public sphere (n=6)—to include tenants and patients—but rarely do they select victims from both realms (n=2). The current study also demonstrates a marked preference for choosing victims from the private sphere, which again aligns with the ideas of women still being more comfortable within, as well as having more control within, their private or personal sphere (Pearson, 1998; Scott, 2005). While this preference may be socially conditioned by access and criminal opportunities available to women, it also indicates that this victim pool is particularly vulnerable and that there may be many unidentified offenders who have remained undetected.

Although the offenders in the FSM dataset prefer to kill victims from their personal sphere, Jane Toppan is again an illustrative example in that she is the only

offender in the sample who chose victims from her professional contacts prior to the 1960s. This may be indicative of the social changes seen in the United States following the Civil Rights and Feminist Movements. Once these watershed events occurred, the offenders post-1960 are almost evenly split between the two broad classifications, with seven hearthside, six occupational, and one other classification being seen in this dataset. As women increasingly enter the public sphere, another victim pool develops and becomes available, and FSMs in careers that interact with children, the elderly and the ill will have access to many individuals that are inherently vulnerable. Despite this possible trend towards selecting victims from the public sphere, FSMs in this study, even those committing their crimes after 1960, still predominantly chose victims from one sphere or the other, not both. Thus, not only is the use of the broad classification schematic suggested by Farrell (2006) empirically supported by the current study, the theoretical support provided by the doctrine of separate sphere is shown to also hold over time and social change, with offenders selecting victims predominantly from one sphere or the other, not both, even as women have moved more fully into the public sphere.

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Session VII – Domestic Violence and Homicide

Filicide: The Muffled Cries Of America's Silent Phenomenon

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INTRODUCTION

Filicide is a unique form of childhood homicide and involves the killing of an offspring by a biological parent or a stepparent (Campion, Cravens, and Coven, 1988; Marleau, Poulin, Webanck, Roy and Laporte, 1999; Wilczynski, 1995). Sudden Infant Death Syndrome is overrepresented in a large portion of cases (Hobbs and Wynne, 1996).

Little research has focused intensively on the study of filicides. What is known of filicides is mostly concentrated on the psychological behavior of the offender, with little regard to the victim or the social aspects of their relationship to the offender or their involvement. Ironically, the United States has allocated very few resources to understand the phenomenon of filicides, despite the extensive policy changes on vaccinations, immunization requirements, and automobile safety that are aimed at improving the quality of life for children. In order to get a more accurate account of filicide, researchers must first understand the relationships and demographics that nurture filicidal behavior.

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METHOD

California Homicide Data

A quantitative analysis was conducted using California Homicide Data reported to the Criminal Justice Statistics Center from 1987 to 2008. Of the 4033 cases within the dataset, 1718 were determined to be acts of filicide and are included in the analysis of the present study.

Variables

The following variables and coding were referenced in the current study:

Dependent Variable. The dependent variable is the number of filicides reported to the Criminal Justice Statistics Center. Several types of homicides were included in the original dataset; however, for the purpose of this study, only “willful homicides” and the cases in which the victim was the biological child or stepchild of the offender were appropriated into the new variable, “filicides.”

Independent Variables. The independent variables used were age of victim, age of offender, gender, race, victim/offender relationship, and number of offenders. Some variables were left as they originally appear in the codebook, whereas others were recoded into new variables.

RESULTS

Data analysis for the current study was anatomized using the Statistical Package for the Social Sciences (SPSS). An independent t-test was conducted to analyze the relationship between the age of the offender and the age of the victim. The purpose of

utilization of the t-test was to evaluate the mean age of the independent variables provided, as well as the homogeneity of variances between the two groups.

Chi-squares were conducted to analyze the relationship between the observed and the theoretical expected frequencies of the corresponding categorical variables. The presence of a binary dependent variable indicated that the execution of a logistic regression model would suffice. In the present study, the dependent variable (number of filicides reported to the Criminal Justice Statistics Center), is the dichotomous criterion variable. The dichotomous predictor variable is the relationship of the victim to the offender, whereby biological parents are coded as “1” and step parents are coded as “0.”

Because the number of filicides that involved biological children outweighed the number of filicides that involved stepchildren, a random sample of 200 biological victims was extracted from the data to be compared to original number of step children. The final sample consisted of 200 biological victims and 134 victims who were stepchildren.

Consistent with the literature, the study found that, biological children were terminated at younger ages (Mean = 5.82, SD=10.19, Median = 1.0) than the stepchildren (Mean =13.18, SD = 12.64, Median = 10.5) ($t = -6.564, p < .05$). The mean age for stepparents was 36.31 years (SD = 13.84, Median = 34) and the mean age for biological parents was 30.88 years (SD = 12.33, Median = 27) ($t = -4.115, p < .05$).

Hispanic and White offenders were responsible for more than half of the total number of homicides in which the victim was their biological offspring and the total number of filicides. With “other” as a reference category in the logit, being a white victim motivated the odds of a parental homicide by a factor of 4.647.

The study found that of the 1718 cases of which data was available, 92.2 percent of the victims were the biological children of their perpetrator. Furthermore, males were 10.8 percent more likely to be a victim of filicide. Additionally, over 59.3 percent of filicides occur with the primary suspect as the father. With regards to the logit, and with female offenders as a reference category, male offenders increased the odds of a parental killing by 12.972.

Of the filicides in which biological children were victims, 35.3 percent were victims of personal weapons (hands, feet, etc.). On the contrary, firearms were the weapon of choice for stepparents (36.6 percent).

In the study, 76.4 percent of homicides involved one victim. Approximately 11 percent included two victims and 12.2 percent of filicides resulted in the deaths of three or more victims. Additionally, the research found that over ninety percent of filicides were perpetrated by one offender. More than one offender precipitated more than ten percent of filicidal acts against biological children and 6.7 percent against stepchildren.

DISCUSSION AND CONCLUSION

The research provides that biological fathers are roughly ten times more likely to terminate the life of their own offspring than biological mothers. In addition, compared to stepfathers, stepmothers are thirteen times less likely to take the life of their stepchild. Overall, fathers were the perpetrators of filicide ten percent more often than mothers were. The findings indicate a dissimilarity with the theoretical framework, which postulates that the survival of offspring correlates with parental investment.

Firearms were the weapon of choice by stepparents, whereas biological parents most often chose to use personal weapons, such as their hands, mouth, or feet. The literature suggests that the most common weapons to inflict injury upon infants are hands and feet (personal weapons) (Adelson, 1961). The results indicated a consistency between the literature and the findings.

The current literature is primarily concentrated on victims under the age of majority, with emphasis on neonaticide and infanticide. The results of the independent samples t-test found that biological children were significantly younger than stepchildren. Additionally, of all filicides, the majority of victims were under the age of eighteen years old.

In contrast to the literature, the research found that fathers are more likely to relinquish the life of their offspring than mothers. Moreover, biological fathers were responsible for more than half of the filicides included in the analysis.

Previous research makes no distinction between class, race, and socioeconomic status as a participating factor in filicide (Gelles and Harrop 1991). As indicated by the study, the numbers of filicides between biological and step relationships remains constant between each racial category. Of all the filicides for which data were available, eight out of ten involve children who were either of black, white, or Hispanic race. With regards to offender, Hispanic and white offenders were responsible for more than half of total filicides.

Research by Sanders (1989), reports that sons are 1.3 times more likely to become victims of filicide than daughters. However, findings from the research produced no significance between the two variables.

The results of the independent t-test indicated that biological children are terminated at earlier ages, compared to stepchildren. Furthermore, the suspects of biological filicide are often younger than the offenders who terminated the life of their stepchildren.

The current literature provides no annotation between the relationship of the victim to the offender and the number of victims present. Because the variables were present, a Chi-square was performed to supplement the current discourse. As indicated by the findings, the vast majority of filicides involved a solo offense. One out of every ten of filicides resulted in the deaths of two or more victims.

The study provides an insightful review of California filicide. It is suggested that further research be extended. In addition, several adaptations should be incorporated into the current regulatory system in order to improve the quality of life and to reduce the number of child fatalities each year.

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Domestic Violence Fatality Reviews: Part I The Value and Challenges of a Growing Phenomenon

Christine Rasche, University of North Florida

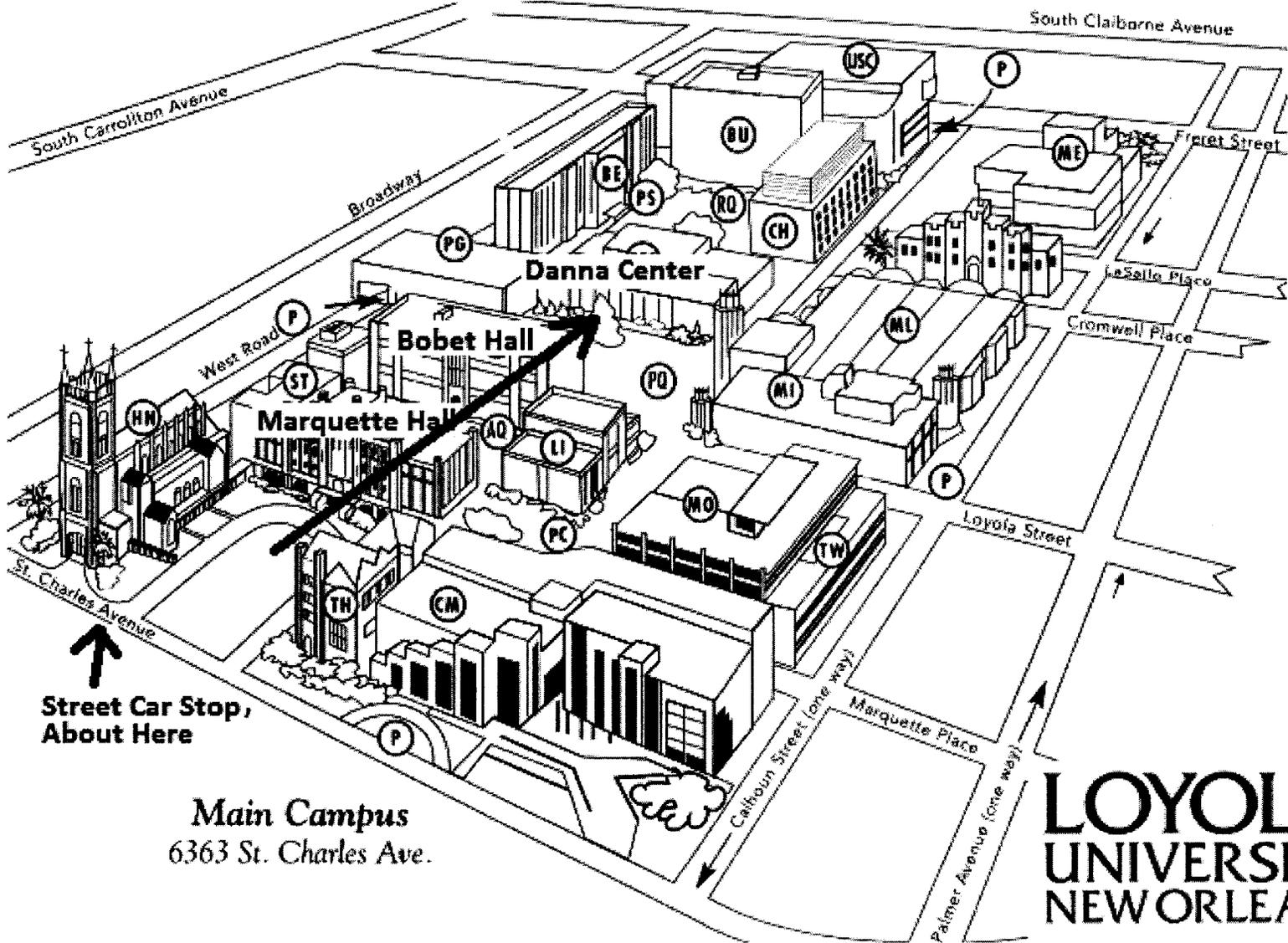
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Domestic Violence Fatality Reviews: Part II Opportunities for Research and Policy Collaborations

Jacquelyn Campbell, John Hopkins University

Over the past 20 years many domestic violence fatality reviews have been started in the US and in other countries to better investigate domestic violence (usually intimate partner) fatalities with the general goal to examine system opportunities to prevent these homicides and to make appropriate recommendations. This presentation will give an overview of the history of this development, the technical support offered through the National Domestic Violence Fatality Review Initiative funded by the Office on Violence Against Women, and the process of domestic violence fatality review. In addition, we will present our personal experience on two different fatality review committees and some of the reports and findings that have come from fatality review committees in the US and a few international committees. The presentation will also give recommendations and potential opportunities for researchers proposing collaborations with these fatality review committees to take advantage of this rich potential source of intimate partner homicide data.

Loyola University Map



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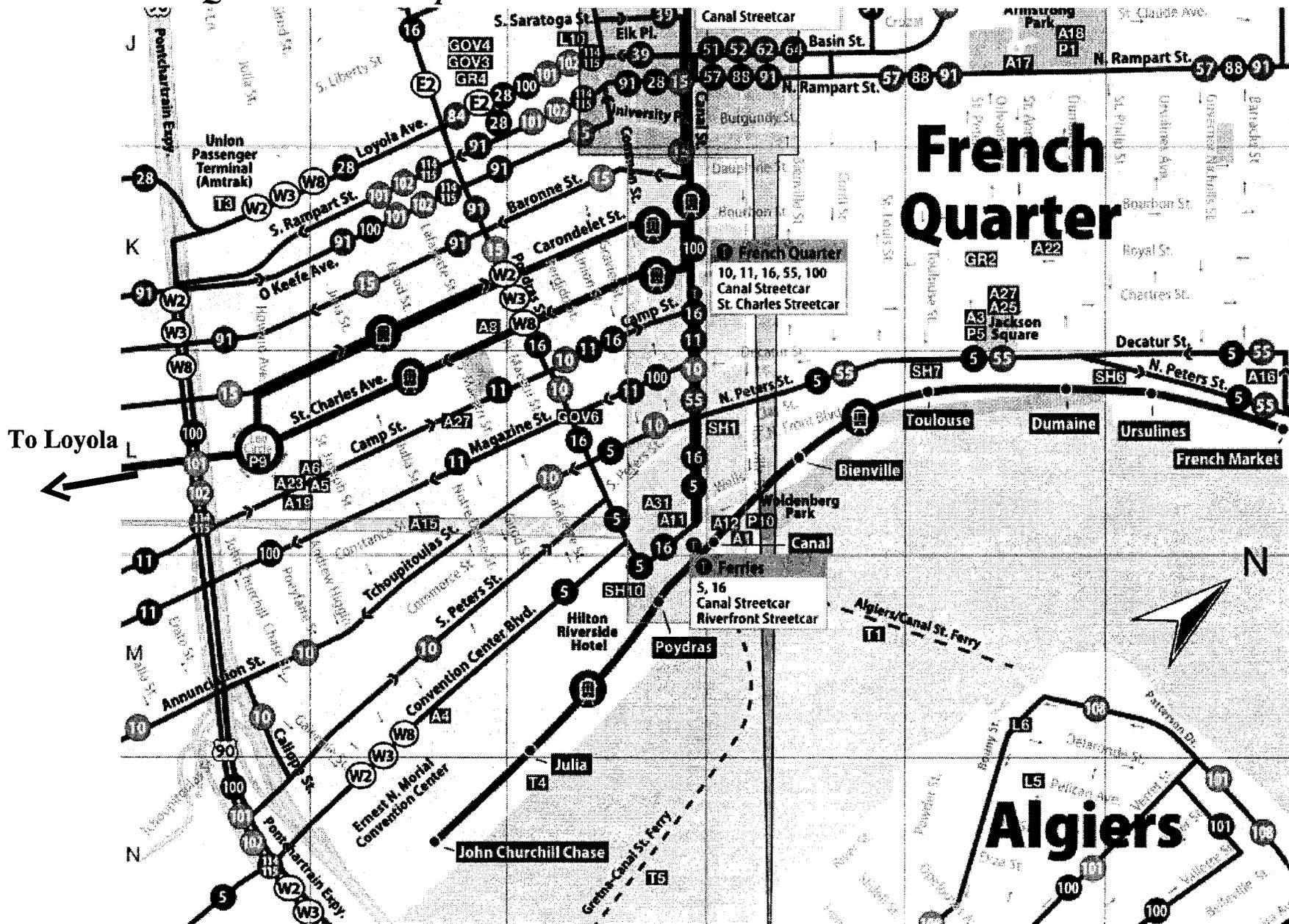
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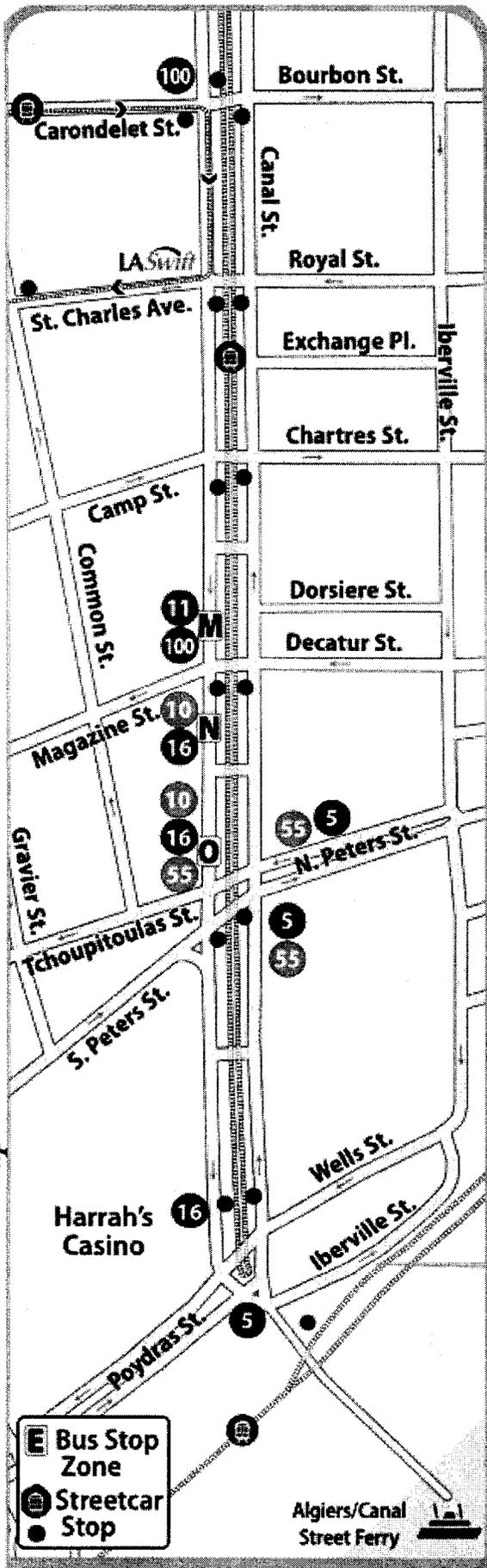
Maps for New Orleans Transit System

<http://www.norta.com/?page=system>

French Quarter Transit Map



Canal Street Transit Map



E	Bus Stop Zone
T	Streetcar Stop
●	Stop

Algiers/Canal Street Ferry 

