



Analysis of NIBRS Data

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Purpose of Session

- ◆ Discuss Process of SPSS Data Analysis
- ◆ Demonstrate Initial Findings from the Data



DATA SOURCE

- OHIO FBI EXTRACT FILE – 1999
- PRIMARY CONTRIBUTORS
 - AKRON
 - DAYTON
 - CINCINNATI
- TOTAL INCIDENTS – 187,250
- TOTAL INCIDENTS INVOLVING FIREARM – 1,316



Goals of Analysis

- ◆ Demonstrate Utility of NIBRS
 - Policy Perspective
 - Crime Prevention
- ◆ Complete Project for Independent Study
- ◆ Publish



First Steps

- ◆ Decide What You are Going to Analyze
- ◆ Determine Unit of Analysis
- ◆ Determine Data Segments of Interest
- ◆ Determine Data Elements of Interest
- ◆ Determine Number of Occurrences to study



Firearms Analysis

- ◆ Unit of Analysis: Offense Type
- ◆ Incidents Involving Firearms
- ◆ Offense and Arrest Characteristics
 - Location, Time, Offense Type, Suspected of Using
 - Arrestee gender, age, and sex

Analysis Process



- ◆ Separate NIBRS Segments into individual Data Files
 - Each segment of the Ohio data extract was split into a unique file.
- ◆ Create SPSS System files for each NIBRS data segment.
 - SPSS does not read raw data. The file must be defined as a system file.



- ◆ Use the SPSS Match Command to merge data files of interest together.
- ◆ Use ORI and Incident as key fields when matching files
- ◆ Build subfile by creating a scratch file that defines the variables of interest and the number of occurrences per incident



- ◆ Transform scratch variables to a permanent file
- ◆ Match files with the Incident Segment (Unit of Analysis)
- ◆ Tell system which variables to keep
- ◆ Assign variable and value label



Why Build a Manageable Subfile?

- ◆ Includes only variables of interest
- ◆ Speeds analysis process
- ◆ Allows for more manageable set of data



Analysis

- ◆ Exploration of Data
- ◆ Frequencies
- ◆ Cross-tabs
 - Hour by Location
 - Offense Type by Hour
 - Offense Type by Weapon
 - Gender by Age

OFFENSE TYPE



UCR Offense Code

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Murder/Nonnegligent Manslaughter	17	1.3	1.3	1.3
Kidnaping/Abduction	28	2.1	2.1	3.4
Forcible Rape	10	.8	.8	4.2
Forcible Sodomy	1	.1	.1	4.3
Forcible Fondling	1	.1	.1	4.3
Robbery	806	61.2	61.2	65.6
Aggravated Assault	276	21.0	21.0	86.6
Weapons Law Violations	177	13.4	13.4	100.0
Total	1316	100.0	100.0	



MURDER / WEAPON

Murder/Nonnegligent Homicide by Weapon Type

			V2006	
			09A	Total
Weapon	Firearm	Count	2	2
		% within V2006	2.5%	2.5%
	Handgun	Count	12	12
		% within V2006	15.2%	15.2%
	Automatic Handgun	Count	1	1
		% within V2006	1.3%	1.3%
	Shotgun	Count	1	1
		% within V2006	1.3%	1.3%
	Rifle	Count	1	1
		% within V2006	1.3%	1.3%
	Knife/Cutting	Count	9	9
		% within V2006	11.4%	11.4%
	Motor Vehicle	Count	3	3
		% within V2006	3.8%	3.8%
	Personal Weapons	Count	4	4
		% within V2006	5.1%	5.1%
	Asphyxiation	Count	2	2
		% within V2006	2.5%	2.5%
	Other	Count	2	2
		% within V2006	2.5%	2.5%
	Unknown	Count	42	42
		% within V2006	53.2%	53.2%
Total		Count	79	79
		% within V2006	100.0%	100.0%

LOCATION OF OFFENSE



Location Type

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bank/Savings and Loan	23	1.7	1.7	1.7
	Bar/Night Club	18	1.4	1.4	3.1
	Commercial/Office Building	10	.8	.8	3.9
	Construction Site	1	.1	.1	4.0
	Convenience Store	43	3.3	3.3	7.2
	Department/Discount Store	3	.2	.2	7.4
	Drug Store/Dr. Office/Hosp.	9	.7	.7	8.1
	Field/Woods	4	.3	.3	8.4
	Grocery/Supermarket	37	2.8	2.8	11.2
	Highway/Road/Alley	512	38.9	38.9	50.2
	Hotel/Motel/Etc.	9	.7	.7	50.8
	Jail/Prison	1	.1	.1	50.9
	Liquor Store	4	.3	.3	51.2
	Parking Lot/Garage	114	8.7	8.7	59.9
	Residence/Home	247	18.8	18.8	78.6
	Restaurant	59	4.5	4.5	83.1
	School/College	12	.9	.9	84.0
	Service/Gas Station	39	3.0	3.0	87.0
	Specialty Store	5	.4	.4	87.4
	Other/Unknown	166	12.6	12.6	100.0
	Total	1316	100.0	100.0	



Weapons Used

Type of Firearm

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Firearm Type Unstated	243	18.5	18.5	18.5
Firearm - Automatic	1	.1	.1	18.5
Handgun	818	62.2	62.2	80.7
Handgun - Automatic	110	8.4	8.4	89.1
Rifle	15	1.1	1.1	90.2
Rifle - Automatic	1	.1	.1	90.3
Shotgun	50	3.8	3.8	94.1
Other Firearm	78	5.9	5.9	100.0
Total	1316	100.0	100.0	

Offender Suspected of Using



Offenders Suspected of Using1

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Alcohol	35	2.7	2.7	2.7
Drugs	8	.6	.6	3.3
Not Applicable	1273	96.7	96.7	100.0
Total	1316	100.0	100.0	



Gender and Race of Arrestee

Sex of Arrestee

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	952	72.3	72.3	72.3
Female	23	1.7	1.7	74.1
Male	341	25.9	25.9	100.0
Total	1316	100.0	100.0	

Race of Arrestee

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	952	72.3	72.3	72.3
Black	271	20.6	20.6	92.9
White	93	7.1	7.1	100.0
Total	1316	100.0	100.0	

INCIDENT HOUR



Hour

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 7pm - 10pm	391	29.7	29.7	29.7
11pm - 2am	350	26.6	26.6	56.3
3am - 6am	146	11.1	11.1	67.4
7am - 10am	83	6.3	6.3	73.7
11am - 2pm	139	10.6	10.6	84.3
3pm - 6pm	207	15.7	15.7	100.0
Total	1316	100.0	100.0	



AGE OF ARRESTEE

AGE

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	9 - 14	13	1.0	3.6	3.6
	15 - 18	84	6.4	23.2	26.8
	19 - 25	119	9.0	32.9	59.7
	25 >	146	11.1	40.3	100.0
	Total	362	27.5	100.0	
Missing	System	954	72.5		
Total		1316	100.0		

UCR Offense Code * Hour Crosstabulation

			Hour					Total	
			7pm - 10pm	11pm - 2am	3am - 6am	7am - 10am	11am - 2pm		3pm - 6pm
UCR Offense Code	Murder/Nonnegligent Manslaughter	Count	5	5	2		3	2	17
		% within UCR Offense Code	29.4%	29.4%	11.8%		17.6%	11.8%	100.0%
	Kidnaping/Abduction	Count	4	8	4	3	3	6	28
		% within UCR Offense Code	14.3%	28.6%	14.3%	10.7%	10.7%	21.4%	100.0%
	Forcible Rape	Count	1	3	5			1	10
		% within UCR Offense Code	10.0%	30.0%	50.0%			10.0%	100.0%
	Forcible Sodomy	Count		1					1
		% within UCR Offense Code		100.0%					100.0%
	Forcible Fondling	Count		1					1
	% within UCR Offense Code		100.0%					100.0%	
Robbery	Count	249	192	90	61	87	127	806	
	% within UCR Offense Code	30.9%	23.8%	11.2%	7.6%	10.8%	15.8%	100.0%	
Aggravated Assault	Count	79	83	28	11	30	45	276	
	% within UCR Offense Code	28.6%	30.1%	10.1%	4.0%	10.9%	16.3%	100.0%	
Weapons Law Violations	Count	53	57	17	8	16	26	177	
	% within UCR Offense Code	29.9%	32.2%	9.6%	4.5%	9.0%	14.7%	100.0%	
Total	Count	391	350	146	83	139	207	1316	
	% within UCR Offense Code	29.7%	26.6%	11.1%	6.3%	10.6%	15.7%	100.0%	



UCR Offense Code * AGE Crosstabulation

			AGE				Total
			9 - 14	15 - 18	19 - 25	25 >	
UCR Offense Code	Murder/Nonnegligent	Count		2	1	5	8
	Manslaughter	% within UCR Offense Code		25.0%	12.5%	62.5%	100.0%
	Kidnaping/Abduction	Count		4	2	1	7
		% within UCR Offense Code		57.1%	28.6%	14.3%	100.0%
	Forcible Rape	Count			1		1
		% within UCR Offense Code			100.0%		100.0%
	Robbery	Count	7	36	34	28	105
		% within UCR Offense Code	6.7%	34.3%	32.4%	26.7%	100.0%
	Aggravated Assault	Count	4	19	26	48	97
		% within UCR Offense Code	4.1%	19.6%	26.8%	49.5%	100.0%
	Weapons Law Violations	Count	2	23	55	64	144
		% within UCR Offense Code	1.4%	16.0%	38.2%	44.4%	100.0%
Total		Count	13	84	119	146	362
		% within UCR Offense Code	3.6%	23.2%	32.9%	40.3%	100.0%



UCR Offense Code * Weapon Type1 Crosstabulation

			Weapon Type1							Total	
			Firearm Type Unstated	Hand gun	Rifle	Shotgun	Other Firearm	11A	12A		13A
UCR Offense Code	Murder/Nonnegligent Manslaughter	Count	2	12		1	1		1		17
		% within UCR Offense Code	11.8%	70.6%		5.9%	5.9%		5.9%		100%
	Kidnaping/Abduction	Count	4	18		2	2		2		28
		% within UCR Offense Code	14.3%	64.3%		7.1%	7.1%		7.1%		100%
	Forcible Rape	Count	3	5					2		10
		% within UCR Offense Code	30.0%	50.0%					20.0%		100%
	Forcible Sodomy	Count							1		1
		% within UCR Offense Code							100%		100%
	Forcible Fondling	Count		1							1
		% within UCR Offense Code		100%							100%
	Robbery	Count	137	522	3	23	46		74	1	806
		% within UCR Offense Code	17.0%	64.8%	.4%	2.9%	5.7%		9.2%	.1%	100%
	Aggravated Assault	Count	62	164	6	12	11	1	20		276
		% within UCR Offense Code	22.5%	59.4%	2.2%	4.3%	4.0%	.4%	7.2%		100%
	Weapons Law Violations	Count	35	96	6	12	18		10		177
		% within UCR Offense Code	19.8%	54.2%	3.4%	6.8%	10.2%		5.6%		100%
Total		Count	243	818	15	50	78	1	110	1	1316
		% within UCR Offense Code	18.5%	62.2%	1.1%	3.8%	5.9%	.1%	8.4%	.1%	100%

Gender by Age



Sex of Arrestee * AGE Crosstabulation

			AGE				Total
			9 - 14	15 - 18	19 - 25	25 >	
Sex of Arrestee	Female	Count	1	3	7	11	22
		% within Sex of Arrestee	4.5%	13.6%	31.8%	50.0%	100.0%
	Male	Count	12	81	112	135	340
		% within Sex of Arrestee	3.5%	23.8%	32.9%	39.7%	100.0%
Total		Count	13	84	119	146	362
		% within Sex of Arrestee	3.6%	23.2%	32.9%	40.3%	100.0%



Sex of Arrestee * AGE * Hour Crosstabulation

Hour				AGE				Total
				9 - 14	15 - 18	19 - 25	25 >	
7pm - 10pm	Sex of Arrestee	Female	Count		1	2	3	6
			% within Sex of Arrestee		16.7%	33.3%	50.0%	100.0%
	Male	Count	5	29	36	36	106	
		% within Sex of Arrestee	4.7%	27.4%	34.0%	34.0%	100.0%	
	Total	Count	5	30	38	39	112	
		% within Sex of Arrestee	4.5%	26.8%	33.9%	34.8%	100.0%	
11pm - 2am	Sex of Arrestee	Female	Count			4	4	8
			% within Sex of Arrestee			50.0%	50.0%	100.0%
	Male	Count	1	17	30	43	91	
		% within Sex of Arrestee	1.1%	18.7%	33.0%	47.3%	100.0%	
	Total	Count	1	17	34	47	99	
		% within Sex of Arrestee	1.0%	17.2%	34.3%	47.5%	100.0%	
3am - 6am	Sex of Arrestee	Female	Count		1		3	4
			% within Sex of Arrestee		25.0%		75.0%	100.0%
	Male	Count	1	5	16	12	34	
		% within Sex of Arrestee	2.9%	14.7%	47.1%	35.3%	100.0%	
	Total	Count	1	6	16	15	38	
		% within Sex of Arrestee	2.6%	15.8%	42.1%	39.5%	100.0%	
7am - 10am	Sex of Arrestee	Male	Count	1	2	3	8	14
			% within Sex of Arrestee	7.1%	14.3%	21.4%	57.1%	100.0%
	Total	Count	1	2	3	8	14	
		% within Sex of Arrestee	7.1%	14.3%	21.4%	57.1%	100.0%	
11am - 2pm	Sex of Arrestee	Female	Count	1	1		1	3
			% within Sex of Arrestee	33.3%	33.3%		33.3%	100.0%
	Male	Count	1	14	11	12	38	
		% within Sex of Arrestee	2.6%	36.8%	28.9%	31.6%	100.0%	
	Total	Count	2	15	11	13	41	
		% within Sex of Arrestee	4.9%	36.6%	26.8%	31.7%	100.0%	
3pm - 6pm	Sex of Arrestee	Female	Count			1		1
			% within Sex of Arrestee			100.0%		100.0%
	Male	Count	3	14	16	24	57	
		% within Sex of Arrestee	5.3%	24.6%	28.1%	42.1%	100.0%	
	Total	Count	3	14	17	24	58	
		% within Sex of Arrestee	5.2%	24.1%	29.3%	41.4%	100.0%	



Summary

- ◆ Determine Purpose of Analysis
- ◆ Convert Data to Manageable Format
- ◆ Consider Quality of Data
- ◆ Representativeness (Analyze it Anyhow)