

SECTION V

The 1997 Chances of Lifetime Murder Victimization

Introduction

Defined in the *Uniform Crime Reporting (UCR) Handbook* as the highest-ranking crime in the crime hierarchy, murder generally is viewed by the public and law enforcement alike as the most serious crime in the Nation. Current statistics indicate that the murder rate in the country declined for six straight years to its lowest level since 1967. Despite national population increases, there were fewer reported murders in 1998 (16,910) than there were in 1971 (17,780). (See Table 5.1.) However, perhaps due in part to exposure resulting from media attention to high profile incidents such as school shootings and by political attention to gun-law reform, murder is a topic that continues to capture national interest.

In light of that interest, the purpose of this study is to investigate the statistical probability of being murdered. Comparisons to a similar study conducted in 1978 are used to illuminate changes in victimization characteristics of age, sex, and race over the last nineteen years.¹ Unlike the traditional examination of murder statistics that often focuses on murder rates (the number of persons out of 100,000 per population who are victims of murder), this study focuses on victimization rates that express the probability that one out of a certain number of people could become the victim of murder.

Table 5.1
Total U.S. Population, Murder Rate, and Number of Murders by Year

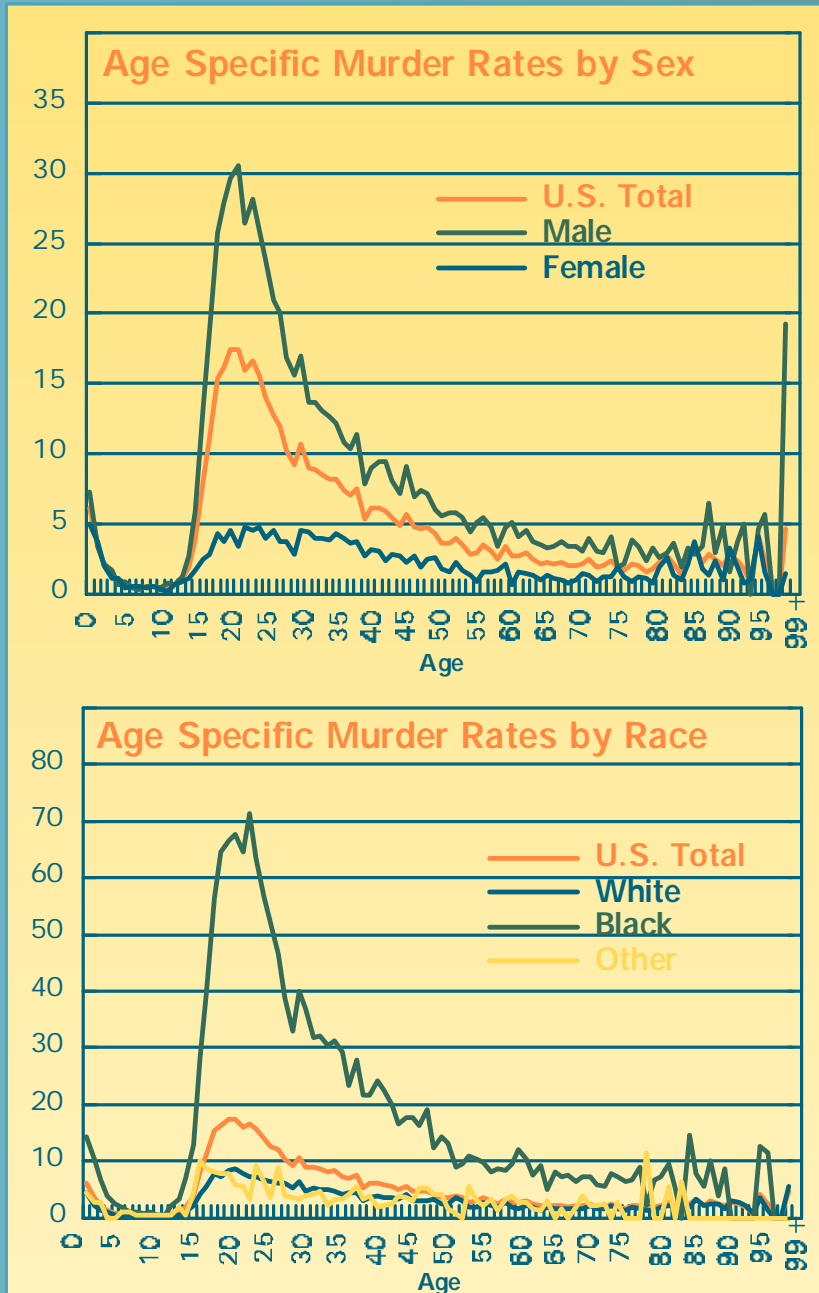
Year	Population	Rate	Murders	Year	Population	Rate	Murders	Year	Population	Rate	Murders
1960	179,323,175	5.1	9,110	1973	209,851,000	9.4	19,640	1986	241,077,000	8.6	20,610
1961	182,992,000	4.8	8,740	1974	211,392,000	9.8	20,710	1987	243,400,000	8.3	20,100
1962	185,771,000	4.6	8,530	1975	213,124,000	9.6	20,510	1988	245,807,000	8.4	20,680
1963	188,483,000	4.6	8,640	1976	214,659,000	8.8	18,780	1989	248,239,000	8.7	21,500
1964	191,141,000	4.9	9,360	1977	216,332,000	8.8	19,120	1990	248,709,873	9.4	23,440
1965	193,526,000	5.1	9,960	1978	218,059,000	9.0	19,560	1991	252,177,000	9.8	24,700
1966	195,576,000	5.6	11,040	1979	220,099,000	9.7	21,460	1992	255,082,000	9.3	23,760
1967	197,457,000	6.2	12,240	1980	225,349,264	10.2	23,040	1993	257,908,000	9.5	24,530
1968	199,399,000	6.9	13,800	1981	229,146,000	9.8	22,520	1994	260,341,000	9.0	23,330
1969	201,385,000	7.3	14,760	1982	231,534,000	9.1	21,010	1995	262,755,000	8.2	21,610
1970	203,235,298	7.9	16,000	1983	233,981,000	8.3	19,310	1996	265,284,000	7.4	19,650
1971	206,212,000	8.6	17,780	1984	236,158,000	7.9	18,690	1997	267,637,000	6.8	18,210
1972	208,230,000	9.0	18,670	1985	238,740,000	7.9	18,980	1998	270,296,000	6.3	16,910

¹Yoshio Akiyama, *Lifetime Victimization Rate by Murder*, Uniform Reporting Section, Presented to Director William H. Webster at the First Semiannual Briefing on Crime, Federal Bureau of Investigation, April 1978.

Figures

5.1 & 5.2

Age Specific Murder Rates by Sex and Race
(per 100,000 inhabitants)
1997



Data

This study, “The 1997 Chances of Lifetime Murder Victimization,” is based on a compilation of data taken from the 1997 UCR Supplemental Homicide Report (SHR),² the finalized “United States Life Tables” for 1997 published by the National Center for Health Statistics (NCHS),³ and the 1997 United States population estimates provided by the U.S. Bureau of the Census.⁴

The primary data for this study come from the 1997 SHR, which collects, in addition to UCR Summary data, information on age, sex, and race of the victim when there is an incident involving murder. The SHR represents all age categories from ‘0’ to ‘99+,’ and the four race categories of White, Black, Asian or Pacific Islander, and American Indian or Alaskan Native. To make the data comparable to the life expectancy statistics of the NCHS, which distinguishes race only by Black and White, the SHR Asian or Pacific Islander and American Indian or Alaskan Native categories were combined to create the “Other” race category. Any unknown classifications in the SHR data were excluded from the study (n=193). As was done in the 1978 study, the 1997 SHR was proportionally adjusted to match the number of murders reported in the Summary Return A database. Age-specific murder rates for 1997 and 1978 can be found in Appendixes A and B.

Population statistics, broken down by age, sex, and race for 1997, were obtained from the U.S. Bureau of the Census. Also, as was the case with the SHR data, for purposes of comparability the Asian or Pacific Islander and American Indian or Alaskan Native American race categories were totaled to create the “Other” race category.

Life expectancy or survival data for 1997 were gathered from the “United States Life Tables” (Life Tables) published by the NCHS. These tables provide a cross-section of the mortality experiences of a hypothetical cohort (based on a population of 100,000 people) (See Life Tables for discussion of methodology)⁵. In its Life Tables the NCHS racially divides the U.S. population by only Whites and Blacks. The total U.S. population Life Tables (representing the national average) were used in computations involving victimization chances for the Other category. Prior to 1997 the NCHS computed life expectancy yearly for age categories up to age 85, then aggregated all age groups 85 and older. In 1997 the NCHS used a new methodology to compute life expectancies separating the aggregated ages through age 99 into one-year categories. Since, at the time of this study, the most recently published Life Tables are those for 1997, this year was used to define the study timeframe.

Methodology

Age-specific murder rates (R_a) were computed for each age, sex, and race representing the number of victims per 100,000 inhabitants of age ‘a’ who were murdered. These rates were then applied to the number of survivors for age ‘a’ using the Life Tables from the NCHS. This produces three groups of people per age group: survivors (S_a), murder victims (M_a), and those who died from causes other than murder (D_a). The following equation expresses this relationship:

$$S_{a-1} = S_a + M_a + D_a \quad \text{where} \quad M_a = (S_{a-1} * R_a) / 100,000$$

²The SHR is fully described in the *Uniform Crime Reporting Handbook*.

³Robert N. Anderson, “United States Life Tables, 1997,” *National Vital Statistics Reports*, National Center for Health Statistics of the Centers for Disease Control and Prevention, Vol. 47, No. 28, December 1999, pp. 6-23.

⁴United States Bureau of the Census Web Site at <http://www.census.gov>.

⁵Robert N. Anderson, “United States Life Tables, 1997,” *National Vital Statistics Reports*, National Center for Health Statistics of the Centers for Disease Control and Prevention, Vol. 47, No. 28, December 1999, pp. 1-6.

The cumulative total of murder victims for each age group ($M_0 + M_1 + M_2 + \dots + M_{99}$) represents the number of expected murder victims over the lifetime for a hypothetical cohort of 100,000 individuals who are born alive. When the number of survivors in a particular age category (S_{a-1}) is divided by this cumulative total ($M_a + M_{a+1} + \dots + M_{99}$), the resulting number is the reciprocal odds ratio for victimization likelihood. Therefore, if the resulting number is 50, then there is a 1 in 50 chance a person in that category will be murdered.

Findings

The results of the study are found in Table 5.2 where murder victimization rates are broken down by specific age categories. This table shows that males are more likely to be the victims of murder than females. Blacks show a higher probability of being murdered than their White and Other counterparts who have nearly equivalent victimization rates.

Age-specific murder rates shown in Appendix A indicate that murder victimization ratios in 1997 peaked during the early- to mid-twenties for all categories.⁶ Compared to the 1978 study which shows murder rates peaking during the mid- to upper-twenties, the age at which murder probabilities peaked in 1997 shifted to slightly younger groups. (See Appendix B.)

Table 5.2

1997 Lifetime Victimization Rate By Murder (5 Year Interval)												
Age	US Total	Male	Female	White	White Male	White Female	Black	Black Male	Black Female	Other	Other Male	Other Female
0	207	133	477	353	241	684	58	35	171	355	248	611
5	214	136	512	367	248	731	60	35	184	370	255	658
10	215	137	519	370	249	741	60	35	186	375	257	678
15	217	138	529	373	251	753	60	35	189	381	261	688
20	250	160	581	420	284	825	70	41	206	459	318	783
25	328	216	680	517	356	953	95	57	243	548	394	855
30	419	283	794	629	442	1088	125	76	290	656	489	943
35	534	364	976	772	544	1309	164	101	368	756	584	1020
40	678	462	1221	941	663	1588	217	133	481	905	709	1183
45	860	589	1509	1152	820	1876	286	174	638	1050	802	1419
50	1109	766	1875	1439	1032	2280	379	231	826	1387	1133	1692
55	1388	970	2249	1792	1304	2714	477	269	998	1664	1355	2021
60	1752	1236	2724	2249	1660	3259	585	354	1204	2112	1791	2397
65	2203	1600	3155	2704	2076	3597	774	464	1552	2774	2787	2640
70	2686	2012	3582	3217	2607	3896	953	544	2012	3130	3236	2982
75	3376	2622	4167	3997	3338	4585	1173	690	2099	4155	5683	3393
80	4009	3105	4796	4595	3774	5228	1462	856	2375	8404	N/A	4749

*Table shows only 80 years of age because the low number of U.S. citizens and murders occurring in age groups over the age of 80 may improperly inflate odds ratios and murder rate and may not reflect the true nature of murder in these groups.

*Based on 1997 murder rates, which may not remain constant over time.

*There were no reported murders for Other males aged 80 and older in 1997.

⁶ Due to the low numbers of murders and low population occurring in the Other category, some of the rates may be inflated and may not accurately represent the true murder rate for the population.

A comparison of the 1978 study (Table 5.3) to the 1997 study demonstrates that, overall, chances of one becoming a murder victim in 1997 declined dramatically. (See Figures 5.3-5.6.) In 1997, one person out of every 207 of the total U.S. population would become the victim of a murder. In contrast, in 1978, one out of every 157 people would be murdered. Victimization rates declined

faster in the Black category than in the White and declined faster for males than for females. (See Figures 5.3 and 5.4.) Because the 1978 study combined the Asian or Pacific Islander and American Indian or Alaskan Native into the Other race category, comparison to past counterparts could not be made.

Table 5.3

1978 Lifetime Victimization Rate By Murder (10 Year Interval)*									
Age	US Population	Male	Female	White	White Male	White Female	Other Total	Other Male	Other Female
0	157	110	373	287	186	606	48	29	124
10	160	110	392	289	187	628	48	28	129
20	172	116	428	311	199	701	50	30	139
30	242	164	601	429	275	957	71	41	205
40	365	255	837	626	407	1342	112	66	315
50	602	444	1247	1044	683	2049	185	114	468
60	1021	846	1717	1869	1262	2958	337	225	666

*As in Table 2, the numbers in these table cells indicate that 1 out of said number will be a victim of murder for the given age, race, and gender.

By using Tables 5.4 and 5.5, the drop in murder victimization can be seen by examining the difference in the expected number of victims from 1978 to 1997. These tables show the number of people out of 100,000 who were expected to be murder victims. For example, the tables indicate that for 1997, 415 out of 100,000 white males were expected to be murder victims during their lifetime. The chances of victimization for all racial and gender categories decreased.

Table 5.4

Expected Number of Lifetime Murder Victims in 1997*			
	Both Sexes	Male	Female
All Races	483	750	210
White	283	415	146
Black	1711	2888	585
Other	282	404	164

*From hypothetical cohort of 100,000. (See page 279.)

Table 5.5

Expected Number of Lifetime Murder Victims for 1978*			
	Both Sexes	Male	Female
All Races	636	912	268
White	349	538	165
Other	2088	3460	806

*From hypothetical cohort of 100,000. (See page 279.)

As shown in Table 5.6, the victimization ratio for all ages fell during the study time-frame. Victimization ratios for both sexes steadily declined until the age of 30 at which time the decrease became more dramatic when compared with the victimization odds for the same group in 1978. In 1997, for people aged 30, males less likely to be murdered than they were nineteen years previously—1 out of 283 down from 1 out of 164 for men and 1 out of 794 down from 1 out of 601 for women, a decrease of 42 and 24 percent respectively.

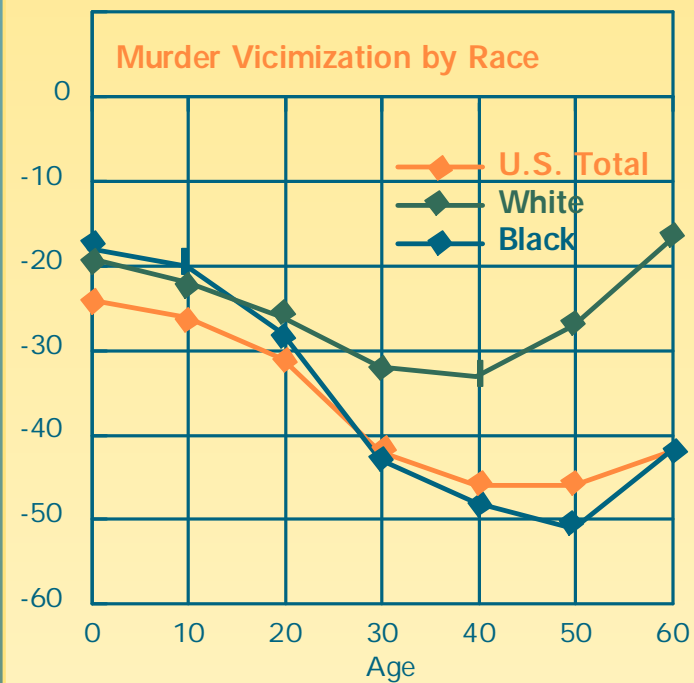
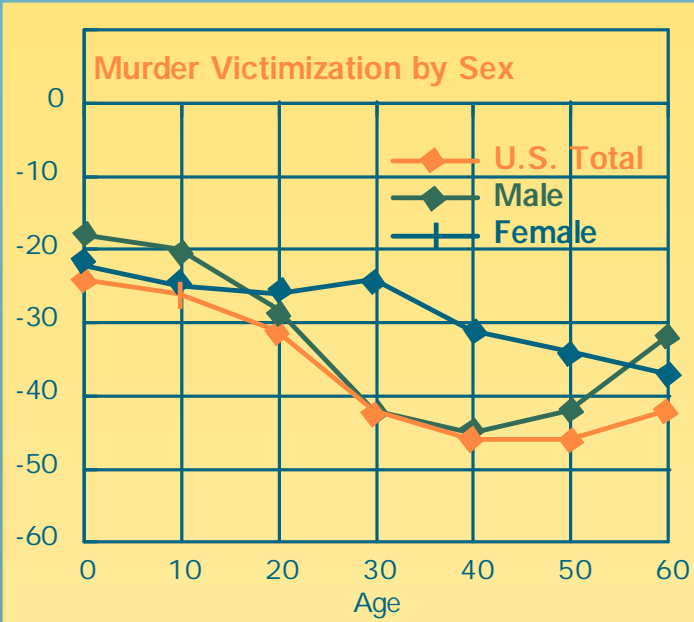
The overall victimization odds for a white person decreased from 1 out of 287 in 1978 to 1 out of 353 in 1997. As with age, victimization differed between men and women. A white male's likelihood for victimization at birth was 1 out of 241 in 1997, a 23 percent decrease on average from 1 out of 186 in 1978. A white female's likelihood, at 1 out of 684 in 1997, showed only an eleven percent decrease from 1978, 1 out of 606. The decrease in odds victimization for white females showed the lowest change of all categories.

As demonstrated in Table 5.6, black victimization rates showed the most dramatic trend of all racial categories. In 1978, 1 out of every 48 of the Other category (the majority of whom were black) could expect to be murdered during the course of a lifetime. By 1997, the rates changed to 1 out of every 58, an 18 percent decrease in the chance of murder victimization. For black persons over the age of 30, the rates decreased from 40 to 50 percent, from 1 out of 71 to 1 out of 125. For

Figures

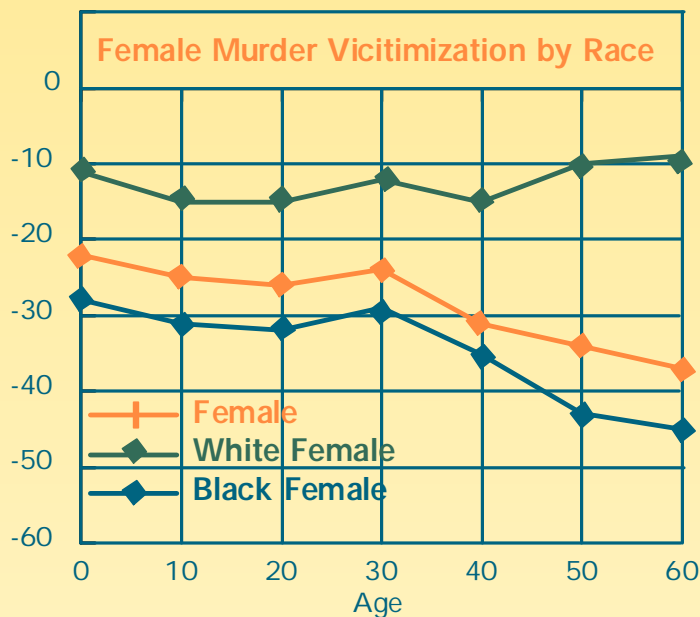
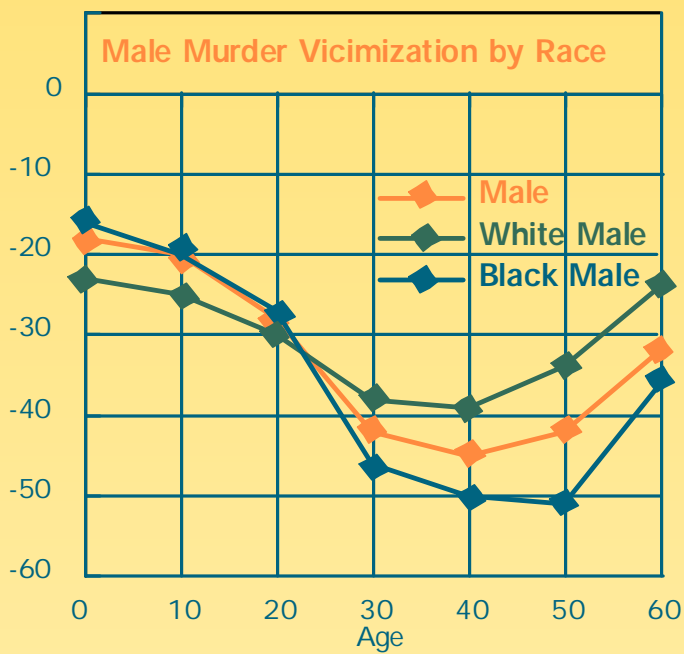
5.3 & 5.4

Percent Decrease in Murder Victimization by Sex and Race 1978 and 1997



Figures 5.5 & 5.6

Percent Decrease in
Murder Victimization,
Male and Female by Race
1978 and 1997



black persons aged 50, at 1 out of 379 down from 1 out of 185 in 1978, the decline was most dramatic—a 51 percent decrease.

Data by race indicate that black males, with a victimization ratio of 1 out of 35, were most likely to be murdered in 1997. Black females, with a victimization ratio of 1 out of 171, were the next most likely to be murdered. Victimization chances for white males (1 out of 241) and males in the Other category (1 out of 248) were similar. Females in the other category were murdered at rates of 1 out of 611 and white females were murdered least often at rates of 1 out of 684.

Table 5.6

Percent Decrease in Lifetime Murder Victimization (1997 vs. 1978)									
Age	US Total	Male	Female	White	White Male	White Female	Black	Black Male	Black Female
0	24	18	22	19	23	11	18	16	28
10	26	20	25	22	25	15	20	20	31
20	31	28	26	26	30	15	28	27	32
30	42	42	24	32	38	12	43	46	29
40	46	45	31	33	39	15	48	50	35
50	46	42	34	27	34	10	51	51	43
60	42	32	37	17	24	9	42	36	45

Conclusion

In general, the age-specific murder rates and sharp decline in victimization after the mid-twenties indicate that from 1978 to 1997 the peak age for murder victimization has shifted to a slightly younger age group. It can also be seen from this study that despite the fact that the murder rate has reached a 30-year low, there is still a discrepancy in victimization between sex and race (See Figures 5.1 and 5.2). In all categories, males are more likely than females to be murdered. Black males are the most likely to be murder victims and white females the least likely; however, if the current rates of decline were to continue there could come a time where the chance of murder victimization would neutralize and show no differences between sex and race.

Appendix A

1997 Age-Specific Murder Rates

Age	US Total	Male	Female	White	White Male	White Female	Black	Black Male	Black Female	Other	Other Male	Other Female
0	7.12	8.36	5.82	5.19	6.74	3.55	16.72	16.89	16.54	5.26	5.19	5.34
1	4.09	3.91	4.28	2.62	2.33	2.93	12.03	12.49	11.55	3.25	4.27	2.20
2	2.42	2.45	2.32	1.35	1.20	1.42	7.57	9.27	5.81	3.30	2.17	4.44
3	1.63	1.95	1.30	1.19	1.34	1.02	4.52	5.81	3.19	0.00	0.00	0.00
4	0.94	0.69	1.21	0.64	0.66	0.61	2.77	1.09	4.51	0.00	0.00	0.00
5	0.72	0.96	0.47	0.40	0.64	0.15	2.20	2.16	2.23	1.06	2.06	0.00
6	0.57	0.50	0.65	0.40	0.50	0.30	1.28	0.72	1.86	1.08	0.00	2.22
7	0.46	0.34	0.59	0.26	0.14	0.37	1.27	1.07	1.47	0.57	0.00	1.17
8	0.56	0.61	0.51	0.51	0.54	0.49	0.77	0.75	0.78	0.61	1.18	0.00
9	0.59	0.64	0.55	0.45	0.37	0.54	1.28	2.16	0.37	0.57	0.00	1.18
10	0.42	0.47	0.37	0.38	0.37	0.39	0.57	1.12	0.00	0.59	0.00	1.22
11	0.58	0.89	0.25	0.54	0.89	0.16	0.59	0.78	0.40	0.59	1.15	0.00
12	0.73	0.72	0.75	0.42	0.30	0.55	2.37	2.72	2.01	0.58	1.14	0.00
13	1.25	1.46	1.02	0.63	0.77	0.48	3.89	4.44	3.33	2.27	3.35	1.15
14	2.18	3.07	1.25	1.15	1.49	0.79	7.92	11.66	4.04	0.55	1.09	0.00
15	4.44	6.83	1.91	2.35	3.24	1.41	14.80	24.14	5.09	5.10	10.06	0.00
16	9.34	15.39	2.89	4.71	7.55	1.67	32.52	55.41	8.53	11.69	18.39	4.76
17	12.87	21.88	3.20	6.43	10.50	2.02	45.96	80.90	9.30	10.09	17.52	2.42
18	17.83	29.95	4.94	8.88	14.25	3.12	65.43	116.96	12.64	9.34	9.24	9.45
19	18.75	32.36	4.35	8.33	12.69	3.66	74.83	140.55	8.78	8.96	16.58	1.28
20	20.24	34.42	5.19	9.80	16.20	2.91	77.33	136.59	17.89	8.98	16.51	1.30
21	20.20	35.48	3.96	9.91	16.07	3.27	78.70	148.90	8.41	6.86	12.27	1.27
22	18.47	30.70	5.53	9.03	14.11	3.57	74.77	134.14	16.51	6.27	8.68	3.81
23	19.27	32.73	5.19	8.51	13.55	3.15	82.89	151.38	17.17	3.70	6.13	1.24
24	18.10	30.22	5.57	8.32	12.77	3.63	73.53	134.65	15.92	10.81	18.36	3.39
25	16.21	27.64	4.52	7.57	12.40	2.54	65.78	120.53	14.53	7.53	11.99	3.18
26	14.76	24.28	5.22	7.29	11.25	3.25	60.68	107.85	17.19	4.10	7.34	1.00
27	13.82	23.31	4.25	7.17	11.90	2.32	53.84	95.86	15.24	10.31	16.90	4.03
28	11.94	19.57	4.29	6.95	10.90	2.91	45.12	79.96	13.22	4.61	8.40	1.11
29	10.69	18.06	3.29	6.14	9.92	2.26	38.38	70.50	9.29	4.18	6.50	2.01
30	12.41	19.67	5.19	7.27	11.04	3.42	46.47	80.00	16.65	3.89	6.95	1.07
31	10.47	15.83	5.16	5.30	7.59	2.97	42.73	70.33	18.07	4.39	5.71	3.17
32	10.25	15.91	4.63	6.18	9.21	3.12	36.90	63.00	13.82	4.86	6.71	3.14
33	9.88	15.19	4.63	5.71	8.07	3.32	37.11	64.34	13.29	5.45	10.18	1.05
34	9.52	14.60	4.42	5.67	8.29	2.98	35.21	59.71	13.39	2.55	5.20	0.00
35	9.54	14.17	4.92	5.51	7.81	3.17	36.22	59.62	15.35	3.74	4.37	3.14
36	8.53	12.55	4.53	4.86	6.87	2.83	34.08	55.25	15.58	3.84	5.65	2.13
37	8.10	12.01	4.20	5.26	7.63	2.85	27.23	43.61	12.73	4.85	6.70	3.12
38	8.74	13.24	4.29	5.24	7.53	2.91	32.23	55.32	11.94	6.55	8.68	4.58
39	6.12	9.11	3.14	3.34	4.69	1.97	24.98	40.47	11.04	3.72	6.57	1.03
40	7.04	10.43	3.68	4.27	6.31	2.21	25.22	41.13	11.13	4.43	4.61	4.27
41	7.17	10.88	3.52	4.32	6.35	2.28	28.21	46.45	12.36	2.26	3.57	1.08
42	6.79	10.94	2.71	4.09	6.46	1.71	26.13	45.41	9.29	2.38	3.74	1.14
43	6.26	9.37	3.24	4.05	6.07	2.03	22.99	36.78	11.06	2.96	2.53	3.34
44	5.65	8.26	3.07	3.71	5.53	1.88	19.32	29.36	10.46	4.53	4.14	4.89
45	6.52	10.53	2.61	4.68	7.47	1.88	20.46	34.39	8.54	4.05	8.67	0.00
46	5.53	8.03	3.11	3.53	4.83	2.25	20.49	34.04	9.16	3.46	5.93	1.30
47	5.36	8.62	2.23	3.36	5.40	1.35	18.97	32.27	7.85	5.99	9.96	2.50
48	5.50	8.27	2.85	3.31	4.69	1.97	21.99	39.42	7.57	6.20	6.66	5.80
49	4.93	7.00	2.93	3.69	4.86	2.54	14.31	24.32	5.82	4.93	7.50	2.66
50	4.20	6.44	2.04	2.78	4.09	1.50	16.43	28.61	6.35	4.67	6.60	2.95
51	4.18	6.74	1.74	2.90	4.58	1.28	15.36	27.81	5.26	1.84	3.89	0.00
52	4.57	6.64	2.61	4.02	5.89	2.22	10.19	15.49	5.90	0.99	0.00	1.87
53	4.08	6.35	1.94	3.43	4.94	1.99	11.15	22.25	2.23	0.00	0.00	0.00
54	3.27	5.14	1.51	2.07	3.39	0.79	12.50	21.66	5.10	6.26	6.65	5.92

55	3.39	5.90	1.06	2.26	3.65	0.94	11.83	25.61	0.76	3.42	2.41	4.33
56	3.99	6.33	1.83	3.15	4.88	1.51	11.31	19.68	4.97	2.46	5.17	0.00
57	3.55	5.44	1.80	2.59	4.04	1.23	9.34	14.89	4.99	3.75	7.91	0.00
58	2.89	3.91	1.95	2.16	2.94	1.44	9.96	13.94	6.87	1.45	3.07	0.00
59	3.90	5.46	2.47	3.17	4.31	2.09	9.63	16.21	4.50	3.94	2.79	4.95
60	3.17	5.89	0.74	2.20	4.20	0.37	11.07	20.62	3.88	4.34	9.28	0.00
61	3.14	4.70	1.74	1.85	3.03	0.76	13.87	18.97	10.07	3.10	6.72	0.00
62	3.40	5.28	1.72	2.36	3.43	1.38	12.01	24.21	2.98	3.15	3.45	2.89
63	2.84	4.33	1.49	2.16	3.34	1.07	8.70	15.85	3.28	1.70	0.00	3.08
64	2.48	4.04	1.11	1.51	2.32	0.78	10.81	19.87	3.99	1.63	3.76	0.00
65	2.56	3.74	1.55	2.07	2.96	1.30	5.72	10.84	1.98	3.53	0.00	6.23
66	2.50	3.92	1.29	1.67	2.88	0.62	9.45	12.14	7.35	0.00	0.00	0.00
67	2.57	4.31	1.08	1.94	3.30	0.75	8.53	14.46	4.21	1.91	4.51	0.00
68	2.27	3.93	0.90	1.68	3.06	0.52	8.73	14.07	4.71	0.00	0.00	0.00
69	2.33	3.86	1.08	1.82	2.85	0.99	7.43	14.23	2.36	2.05	4.96	0.00
70	2.50	3.53	1.69	1.84	2.70	1.15	8.43	13.62	4.78	4.36	0.00	7.57
71	2.86	4.59	1.50	2.34	3.48	1.44	8.37	16.68	2.58	2.34	5.49	0.00
72	2.14	3.55	1.04	1.74	2.63	1.04	6.67	14.20	1.42	2.36	5.57	0.00
73	2.28	3.36	1.45	1.92	2.47	1.49	6.37	13.81	1.50	2.66	6.32	0.00
74	2.79	4.70	1.37	2.32	3.36	1.54	9.02	22.33	0.00	0.00	0.00	0.00
75	2.22	2.20	2.24	1.67	1.50	1.80	8.38	11.68	6.20	3.04	0.00	5.25
76	1.90	2.52	1.44	1.51	1.58	1.46	7.26	15.78	1.71	0.00	0.00	0.00
77	2.43	4.47	1.00	2.05	3.82	0.80	7.60	14.07	3.53	0.00	0.00	0.00
78	2.38	3.93	1.33	1.76	2.65	1.15	10.46	21.80	3.71	0.00	0.00	0.00
79	1.81	2.65	1.26	1.48	1.87	1.23	2.44	6.47	0.00	13.43	20.97	7.81
80	2.02	3.85	0.87	1.64	3.01	0.77	7.57	17.15	2.34	0.00	0.00	0.00
81	2.53	3.04	2.23	2.14	2.32	2.04	8.52	14.61	5.24	0.00	0.00	0.00
82	3.12	3.38	2.97	2.46	1.85	2.82	11.04	26.91	2.79	6.46	0.00	11.17
83	2.46	4.22	1.49	2.25	4.20	1.17	5.97	6.05	5.93	0.00	0.00	0.00
84	1.51	2.20	1.15	1.51	2.44	1.02	0.00	0.00	0.00	7.35	0.00	12.72
85	2.94	3.83	2.49	2.01	3.60	1.21	16.86	8.41	21.09	0.00	0.00	0.00
86	3.96	3.26	4.28	3.66	2.88	4.02	8.95	9.56	8.67	0.00	0.00	0.00
87	2.63	3.87	2.07	2.37	3.43	1.89	6.54	10.56	4.73	0.00	0.00	0.00
88	3.32	7.44	1.57	2.73	5.14	1.72	11.73	38.95	0.00	0.00	0.00	0.00
89	2.89	3.39	2.69	2.83	2.51	2.95	4.37	15.16	0.00	0.00	0.00	0.00
90	2.33	5.69	1.07	1.71	3.18	1.17	10.12	35.92	0.00	0.00	0.00	0.00
91	3.27	1.79	3.79	3.62	2.01	4.18	0.00	0.00	0.00	0.00	0.00	0.00
92	2.73	4.34	2.19	3.04	4.95	2.42	0.00	0.00	0.00	0.00	0.00	0.00
93	2.08	5.71	0.92	2.32	6.50	1.01	0.00	0.00	0.00	0.00	0.00	0.00
94	0.89	0.00	1.16	1.00	0.00	1.29	0.00	0.00	0.00	0.00	0.00	0.00
95	4.85	5.32	4.71	4.06	0.00	5.21	14.77	56.53	0.00	0.00	0.00	0.00
96	2.86	6.57	1.83	1.64	7.86	0.00	13.44	0.00	18.10	0.00	0.00	0.00
97	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
99+	5.33	22.30	1.62	6.25	27.91	1.88	0.00	0.00	0.00	0.00	0.00	0.00

Appendix B

1978 Age-Specific Murder Rates									
Age	US Total	Male	Female	White	White Male	White Female	Other	Other Male	Other Female
0	6.83	7.32	6.20	4.72	5.31	4.27	16.63	16.96	1.63
1	3.16	3.21	2.97	1.84	1.87	1.81	8.52	9.47	8.27
2	4.28	5.08	3.38	2.92	3.77	2.11	10.29	11.11	9.09
3	2.63	3.08	2.08	1.56	1.87	1.15	7.56	8.75	5.97
4	1.72	1.75	1.62	1.13	1.26	0.99	4.22	4.00	4.08
5	1.26	1.58	0.92	0.91	1.08	0.73	2.65	3.84	1.42
6	1.00	1.07	0.93	0.74	0.87	0.60	2.03	2.02	2.04
7	1.11	1.03	1.19	0.67	0.72	0.61	3.20	2.53	3.54

8	0.91	0.73	1.05	0.65	0.47	0.77	2.07	2.06	2.09
9	0.66	0.85	0.41	4.48	0.75	0.28	1.38	1.72	1.04
10	0.84	0.77	0.86	0.51	0.60	0.41	2.14	1.63	2.64
11	0.97	0.61	1.28	0.75	0.40	1.05	1.89	1.71	2.07
12	1.02	1.18	0.84	0.86	0.77	0.95	1.62	3.21	0.00
13	1.48	1.27	1.64	0.93	0.79	1.14	4.08	3.76	4.10
14	2.54	2.78	2.24	2.07	2.34	1.79	4.64	4.74	4.24
15	3.55	4.63	2.36	2.56	3.32	1.76	8.52	11.50	5.45
16	5.57	7.10	3.86	3.80	4.80	2.74	14.73	19.34	9.72
17	8.56	12.86	3.92	5.82	8.14	3.41	22.58	38.23	6.60
18	10.78	14.93	5.98	6.82	9.38	4.19	31.01	46.10	15.95
19	12.91	19.01	5.79	8.47	12.67	4.29	34.52	55.41	14.28
20	14.10	20.86	6.14	9.18	13.72	4.56	38.56	62.65	14.98
21	16.29	24.03	7.18	9.07	13.81	4.26	53.73	85.33	23.73
22	17.84	26.72	7.83	9.83	15.03	4.57	60.20	97.50	26.05
23	18.13	27.39	7.94	10.68	16.33	5.01	58.64	96.60	24.57
24	17.27	26.33	7.56	8.77	13.70	3.85	66.18	108.52	28.71
25	17.89	28.35	7.26	9.88	15.03	4.74	65.13	113.52	22.30
26	18.85	29.60	7.38	10.10	15.62	4.60	72.24	127.87	24.24
27	18.66	30.01	6.77	9.75	16.04	3.50	70.61	123.17	25.54
28	18.97	29.11	8.35	11.04	16.65	5.44	67.81	116.90	25.98
29	16.30	26.73	5.57	9.59	15.83	3.38	57.72	103.27	18.72
30	15.65	24.60	6.36	8.04	12.29	3.77	63.08	110.52	22.26
31	12.85	20.39	4.97	7.43	11.15	3.68	53.16	98.46	14.28
32	17.58	27.79	7.04	9.93	15.44	4.34	67.13	118.51	23.71
33	14.35	23.83	4.80	8.39	13.79	3.04	52.47	96.36	15.50
34	14.02	21.94	6.02	6.91	10.28	3.62	59.78	106.39	20.87
35	14.20	23.42	4.88	8.33	13.75	3.02	55.92	101.21	18.18
36	12.94	20.76	5.09	7.85	12.02	3.79	46.62	86.36	13.36
37	14.16	23.37	5.00	7.44	12.44	2.59	57.79	104.08	20.00
38	15.50	25.72	5.34	9.16	15.66	2.91	56.67	101.45	20.00
39	13.46	20.85	6.06	8.01	11.81	4.36	49.66	89.55	16.86
40	15.69	25.43	6.13	9.12	13.91	4.50	59.93	112.78	16.46
41	12.09	19.38	5.02	6.82	10.41	3.35	47.40	87.59	15.09
42	14.27	22.27	6.36	9.35	14.40	4.47	47.36	82.03	18.47
43	12.10	18.97	5.33	7.54	11.44	3.74	42.30	74.61	15.38
44	10.56	17.26	4.01	6.56	10.67	2.69	36.52	65.11	12.33
45	12.10	20.03	4.40	8.04	13.01	3.26	38.54	70.45	11.61
46	10.45	17.25	3.81	6.09	9.54	2.74	41.11	76.00	10.34
47	10.32	15.97	4.68	7.11	10.35	4.07	32.96	59.84	8.90
48	8.93	14.86	3.19	5.85	8.92	2.91	30.27	59.12	4.45
49	9.29	15.55	3.27	6.70	10.81	2.77	28.41	53.17	6.20
50	11.68	19.84	3.89	7.74	12.51	3.19	41.94	79.83	8.39
51	7.81	12.35	3.46	5.08	7.69	2.61	29.11	51.23	9.28
52	9.41	15.51	3.66	5.98	9.92	2.39	36.09	62.60	13.28
53	7.72	13.23	2.55	4.80	8.51	1.34	31.17	53.27	11.42
54	8.13	12.74	3.82	5.72	8.65	3.00	28.16	49.55	9.84
55	8.26	13.96	2.96	5.29	8.33	2.49	33.06	64.03	6.06
56	7.20	12.35	2.38	4.75	7.82	1.92	29.00	55.14	6.50
57	7.19	11.84	2.82	4.85	7.73	2.19	28.18	49.51	8.47
58	7.01	12.01	2.46	5.01	8.51	1.90	23.43	41.96	6.25
59	6.06	9.67	2.71	3.49	5.13	2.11	29.12	52.08	8.18
60	6.32	11.01	2.01	3.96	6.82	1.38	28.80	52.94	7.07
61	7.04	11.67	2.80	5.59	8.85	2.65	21.51	41.02	4.25
62	6.54	9.94	3.33	4.30	6.76	2.11	28.23	42.85	15.05
63	5.44	8.94	2.29	4.37	7.08	1.99	14.91	26.82	5.05
64	5.77	8.74	3.13	3.86	6.14	2.02	22.77	33.33	13.13
65	5.74	9.00	2.93	4.25	6.23	2.72	17.36	33.73	4.67
66	4.95	8.13	2.27	3.76	5.67	2.19	14.51	29.62	2.88
67	5.30	9.23	2.08	3.83	6.42	1.66	15.84	30.68	4.38
68	4.81	7.27	2.79	3.33	5.06	2.09	15.46	24.70	8.25
69	4.57	8.07	1.90	3.02	5.86	0.86	18.18	28.35	10.34
70	5.04	8.45	2.47	2.96	5.19	1.29	24.28	39.34	12.65
71	3.16	4.33	2.30	2.65	3.80	1.81	7.75	9.80	6.15
72	5.26	7.82	3.26	4.38	6.36	3.10	12.84	20.40	5.08

73	4.74	6.89	3.05	3.79	5.36	2.53	13.86	21.27	7.27
74	4.40	6.80	2.55	3.24	4.95	2.05	162.85	27.77	6.97
75	4.93	7.07	3.29	3.32	4.39	2.60	22.22	37.50	10.25
76	5.57	6.26	4.93	4.07	4.51	4.00	22.80	28.00	18.75
77	4.95	6.38	4.05	3.76	5.42	2.73	15.78	14.70	16.66
78	5.88	7.98	4.38	3.90	4.27	3.90	24.65	40.00	10.00
79	4.32	5.03	3.67	3.89	5.06	3.20	7.84	9.52	6.66
80	5.52	7.11	4.35	4.57	6.31	3.59	14.89	21.05	10.71
81	2.92	1.89	3.50	2.42	1.56	2.91	6.38	5.26	7.14
82	5.31	7.03	4.10	4.46	6.14	3.57	12.24	20.00	6.89
83	4.58	6.04	3.80	3.15	3.06	3.19	17.02	31.57	6.89
84	4.75	5.09	4.57	3.55	4.22	3.21	15.00	13.33	16.00
85+	4.21	5.08	3.49	3.53	4.91	3.78	8.52	8.97	8.27