

APPENDIX A CALCULATING THE SERIES ADJUSTMENT

As discussed in *Section 3*, when calculating totals, proportions, and rates, it is important to account for *series victimizations*. Series victimizations occur when an NCVS respondent recalls at least six criminal incidents of a similar nature but cannot recall the dates and other details of the individual incidents well enough to report them separately. Each series victimization is represented as a single record on the incident file, and the number of incidents linked to that series is recorded. Weight adjustments are needed to appropriately account for series victimizations for all three types of estimates.

When series victimizations are included, calculations of totals and proportions should be based on an adjusted victimization weight (*newwgt*), as defined in the example code below. For the calculation of victimization rates, total counts of victimizations must be weighted by the series weight (*serieswgt*) before moving victimization summaries onto the household- or person-level files. The SAS, SPSS, and Stata code below should be applied to the NCVS incident file. This code creates the adjusted victimization weight and the series weight.

A.1 SAS Syntax

```
**create series weight;

if (v4017 in (1,8)) or (v4018 in (2,8)) or (v4019 in (1,8)) then
series=1; else series=2;

serieswgt=1;

**create temporary variable for alternative weight;

if v4016 not in (997 998) then n10v4016=v4016;
if n10v4016>10 then n10v4016=10; if (series=2) then
serieswgt=n10v4016;
if (series=2 and n10v4016=.) then serieswgt=6;

newwgt=wgtviccy*serieswgt;
```

A.2 SPSS Syntax

```
/*create series weight*/

missing values all().

do if (any(v4017,1,8) or
      any(v4018,2,8) or
      any(v4019,1,8)).
+ compute series=1.
```

```

else.
+ compute series=2.
end if.

variable label
  series    'incident frequency'.

value label
  series 1 'not a series crime'
        2 'series crime'/.

execute.

compute serieswgt=1.
missing values v4016 (997 998).
compute n10v4016=v4016.

**create temporary variable for alternative weight.

recode n10v4016 (10 thru hi=10).

if (series=2) serieswgt=n10v4016.

if (series=2 and missing(n10v4016)) serieswgt=6.
compute newwgt=wtviccy*serieswgt.

execute.

```

A.3 Stata Syntax

```

/*create series weight*/
generate series=2
replace series=1 if inlist(v4017,1,8) | inlist(v4018,2,8) |
inlist(v4019,1,8)

**create temporary variable for alternative weight;

generate n10v4016=v4016 if inlist(v4016,997,998)==0
replace n10v4016=10 if n10v4016 >10

generate serieswgt=1
replace serieswgt=n10v4016 if series==2
replace serieswgt=6 if series==2 & n10v4016==.

generate newwgt=wtviccy*serieswgt
label variable series "incident frequency"
label define series
label values series series
label define series 1"not a series crime" 2"series crime

```

APPENDIX B
GENERALIZED VARIANCE FUNCTION (GVF) PARAMETERS: 1993–2014

The GVF parameters that have traditionally been used to calculate standard errors for the NCVS are contained in the tables below. These parameters, which vary by year and estimate type, should be used for collection-year estimates that include series victimizations.

1993 Parameter Sets¹

	a	b	c
1. Overall person crime estimates	-0.00042893	6,085	5.818
2. Person crime domain estimates	-0.00073642	3,923	9.934
3. Overall property crime estimates	-0.00034948	838	3.406
4. Property crime domain estimates	-0.00033613	2,011	3.019

¹ The 1993 data originated from two half-samples, NCS and NCVS. The GVF calculations for 1993 are based only on the NCVS half-sample.

1994 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00040854	2,864	5.768
2. Person crime domain estimates	-0.00051953	2,838	7.021
3. Overall property crime estimates	-0.00038080	319	3.787
4. Property crime domain estimates	-0.00033372	2,044	3.004

1995 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00037079	2,826	5.245
2. Person crime domain estimates	-0.00058524	2,084	7.992
3. Overall property crime estimates	-0.00035466	332	3.540
4. Property crime domain estimates	-0.00033252	2,002	3.004

1996 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00054329	1,224	7.924
2. Person crime domain estimates	-0.00071706	2,141	9.853
3. Overall property crime estimates	-0.00022338	2,041	2.062
4. Property crime domain estimates	-0.00025538	2,528	2.216

1997 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00060876	3,973	8.758
2. Person crime domain estimates	-0.00084400	3,084	11.606
3. Overall property crime estimates	-0.00050902	-526	5.242
4. Property crime domain estimates	-0.00042269	1,609	3.955

1998 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00069365	716	10.284
2. Person crime domain estimates	-0.00083876	1,593	11.674
3. Overall property crime estimates	-0.00045078	1,647	4.466
4. Property crime domain estimates	-0.00039879	2,640	3.639

1999 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00062265	2,974	9.132
2. Person crime domain estimates	-0.00085331	2,881	11.837
3. Overall property crime estimates	-0.00041482	960	4.201
4. Property crime domain estimates	-0.00036800	2,455	3.383

2000 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00063445	1,650	9.445
2. Person crime domain estimates	-0.00091124	2,138	12.745
3. Overall property crime estimates	-0.00073678	-1,921	7.854
4. Property crime domain estimates	-0.00061236	827	5.981

2001 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00052825	1,928	7.870
2. Person crime domain estimates	-0.00069129	2,774	9.633
3. Overall property crime estimates	-0.00059233	-793	6.276
4. Property crime domain estimates	-0.00052248	1,263	5.070

2002 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00085677	2,087	12.901
2. Person crime domain estimates	-0.00108486	1,822	15.331
3. Overall property crime estimates	-0.00040390	1,053	4.142
4. Property crime domain estimates	-0.00037459	2,209	3.507

2003 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00051622	3,646	7.750
2. Person crime domain estimates	-0.00085819	2,593	12.280
3. Overall property crime estimates	-0.00048584	-197	5.209
4. Property crime domain estimates	-0.00047387	1,566	4.621

2004 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00035852	4,395	5.291
2. Person crime domain estimates	-0.00060837	3,104	8.659
3. Overall property crime estimates	-0.00033261	2,145	3.379
4. Property crime domain estimates	-0.00031991	2,552	2.995

2005 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00060311	2,805	9.251
2. Person crime domain estimates	-0.00081369	3,213	11.713
3. Overall property crime estimates	-0.00036754	2,039	3.789
4. Property crime domain estimates	-0.00036501	2,698	3.460

2006 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00056113	5,459	8.476
2. Person crime domain estimates	-0.00073569	3,217	10.626
3. Overall property crime estimates	-0.00025057	3,500	2.398
4. Property crime domain estimates	-0.00023644	3,800	2.052

2007 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00059713	1,795	9.335
2. Person crime domain estimates	-0.00107591	264	15.939
3. Overall property crime estimates	-0.00027740	2,364	2.816
4. Property crime domain estimates	-0.00028978	2,565	2.732

2008 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00063195	5,004	9.722
2. Person crime domain estimates	-0.00076651	5,025	11.857
3. Overall property crime estimates	-0.00035885	1,887	3.778
4. Property crime domain estimates	-0.00032519	3,348	3.275

2009 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00054111	2,410	8.475
2. Person crime domain estimates	-0.00106740	3,529	16.794
3. Overall property crime estimates	-0.00030998	2,160	3.233
4. Property crime domain estimates	-0.00026607	3,098	2.663

2010 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00086145	1,384	13.696
2. Person crime domain estimates	-0.00108760	1,960	17.278
3. Overall property crime estimates	-0.00020353	2,450	2.035
4. Property crime domain estimates	-0.00017899	3,297	1.687

2011 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00060211	2,439	9.511
2. Person crime domain estimates	-0.00081383	2,309	12.916
3. Overall property crime estimates	-0.00028723	4,182	2.809
4. Property crime domain estimates	-0.00037148	2,981	3.852

2012 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00025343	6,439	3.704
2. Person crime domain estimates	-0.00054187	3,893	8.530
3. Overall property crime estimates	-0.00020722	2,345	2.116
4. Property crime domain estimates	-0.00020565	2,810	2.057

2013 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00082347	2,059	13.264
2. Person crime domain estimates	-0.001118	1,958	18.059
3. Overall property crime estimates	-0.00023036	2,084	2.418
4. Property crime domain estimates	-0.00021207	2,786	2.149

2014 Parameter Sets

	a	b	c
1. Overall person crime estimates	-0.00050049	4,230	7.914
2. Person crime domain estimates	-0.00077074	3,234	12.388
3. Overall property crime estimates	-0.00019138	2,809	1.931
4. Property crime domain estimates	-0.00019976	3,071	2.003

APPENDIX C

GENERALIZED VARIANCE FUNCTION 2-YEAR CORRELATIONS: 1993–2014

The 2-year correlation coefficients for the major NCVS crime types are included in the tables below. *Tables C-1* and *C-2* present the 2-year correlations for personal crimes, and *Tables C-3* and *C-4* present the 2-year correlations for property crimes. These correlations should be used in the calculation of pooled parameters for pooled-year GVF estimates and in significance testing, and they should be used only for estimates that include series victimizations.

Table C-1. Year-to-Year Correlation Coefficients: 1993–2003: Personal Crimes

	1993 ¹ -1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
Total personal crimes	0.22	0.08	0.06	0.12	0.56	0.41	0.40	0.34	0.52	0.45
Crimes of violence	0.24	0.08	0.07	0.12	0.55	0.41	0.39	0.34	0.52	0.45
Completed	0.37	0.16	0.02	0.10	0.47	0.12	0.19	0.24	0.23	0.33
Attempted	0.08	0.12	0.00	0.11	0.48	0.40	0.29	0.23	0.40	0.38
Rape/sexual assault	-0.07	0.12	0.00	0.07	0.17	-0.07	0.01	-0.02	0.02	0.02
Rape	0.01	0.07	0.05	0.08	0.12	-0.07	-0.04	-0.02	-0.06	0.04
Completed	0.00	0.04	0.02	0.11	0.16	0.08	-0.06	-0.02	0.00	0.03
Attempted	0.03	-0.08	0.08	-0.01	-0.15	-0.22	0.01	-0.02	-0.07	0.08
Sexual assault	-0.14	0.10	0.01	-0.01	0.16	-0.06	0.05	-0.03	-0.03	-0.01
Robbery	0.16	0.10	-0.06	-0.01	0.17	-0.01	-0.05	-0.01	-0.03	-0.09
Completed	0.18	0.12	0.03	-0.03	0.22	0.03	-0.02	-0.05	-0.01	0.02
With injury	0.03	-0.04	0.01	-0.05	0.02	-0.01	0.00	0.08	-0.10	0.02
Without injury	0.12	0.15	0.02	0.01	0.14	0.09	-0.06	-0.05	0.08	0.00
Attempted	-0.05	0.04	0.04	0.13	0.03	-0.09	-0.09	-0.04	-0.02	-0.11
With injury	-0.03	-0.01	0.03	0.15	0.00	-0.01	0.01	0.09	0.07	0.13
Without injury	-0.07	0.12	0.09	0.15	0.07	-0.16	-0.10	0.01	0.02	-0.09
Assault	0.12	0.11	0.08	0.10	0.53	0.41	0.44	0.33	0.52	0.37
Aggravated	-0.08	0.10	-0.02	0.01	0.15	0.14	0.09	0.10	0.17	0.12
Completed with injury	0.01	0.02	-0.06	-0.15	0.12	-0.04	0.02	0.08	0.12	-0.01
Attempted	-0.08	0.12	0.03	0.13	-0.05	0.19	0.01	0.07	0.05	0.17
Simple	0.14	0.12	0.07	0.09	0.50	0.41	0.40	0.32	0.45	0.34
Completed with injury	0.11	0.16	0.07	0.05	0.36	0.14	0.21	0.12	0.20	-0.04
Attempted	0.10	0.10	0.01	0.09	0.44	0.36	0.32	0.24	0.36	0.41
Purse snatching/ pocket picking	-0.07	0.21	-0.05	-0.05	0.03	-0.16	0.08	-0.03	0.09	-0.07
Completed	0.13	0.00	0.03	0.00	-0.06	-0.39	0.00	0.05	0.04	0.04
Attempted	-0.08	-0.07	-0.08	-0.06	0.28	0.00	0.00	0.00	0.00	0.00

¹The 1993 data originated from two half-samples. NCS and NCVS. The correlation calculations for 1993 are based only on the NCVS half-sample.

Table C-2. Year-to-Year Correlation Coefficients: 2003–2014: Personal Crimes

	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Total personal crimes	0.49	0.32	0.07	0.04	0.16	0.35	0.25	0.20	0.10	0.3200	0.0010
Crimes of violence	0.49	0.32	0.07	0.03	0.13	0.37	0.24	0.20	0.11	0.3300	-0.0050
Completed	0.10	0.13	-0.07	-0.03	0.24	-0.03	0.02	0.03	0.08	0.1300	-0.0790
Attempted	0.44	0.23	0.16	0.00	0.08	0.37	0.30	0.14	0.06	0.3000	0.0290
Rape/sexual assault	0.11	-0.01	0.01	-0.01	0.08	-0.06	-0.04	-0.007	0.05	0.0600	0.0740
Rape	0.02	-0.01	-0.06	0.01	0.04	-0.14	0.02	-0.03	0.03	0.0600	0.0920
Completed	0.00	0.00	-0.26	0.01	0.05	-0.01	0.007	-0.17	0.03	-0.0400	-0.0720
Attempted	0.08	-0.04	-0.02	0.03	0.01	0.04	0.02	-0.03	-0.07	0.0800	0.0210
Sexual assault	0.35	0.08	0.05	-0.02	-0.03	0.03	-0.04	0.01	-0.05	-0.0010	0.1340
Robbery	0.12	0.14	-0.12	-0.01	0.06	0.14	0.14	0.09	0.11	0.2100	-0.0430
Completed	0.04	0.15	-0.19	0.00	0.10	0.19	0.27	0.07	0.13	0.2200	-0.0510
With injury	0.49	0.20	-0.02	-0.01	-0.03	0.23	0.07	0.17	0.10	-0.0100	-0.0370
Without injury	-0.06	0.12	0.07	0.04	0.07	0.09	0.15	0.007	0.14	0.0300	-0.0050
Attempted	0.02	0.00	-0.17	-0.08	0.03	0.03	0.12	-0.10	-0.11	-0.0100	0.0150
With injury	0.15	0.05	-0.10	-0.09	0.13	0.04	-0.18	0.05	0.02	-0.0300	-0.1090
Without injury	0.09	-0.02	-0.02	-0.01	0.002	0.01	0.18	-0.16	-0.15	-0.0050	-0.0050
Assault	0.46	0.33	0.09	0.06	0.13	0.26	0.15	0.14	0.14	0.2800	-0.0240
Aggravated	0.13	0.09	-0.08	-0.01	0.001	0.13	0.05	0.14	0.10	0.0030	0.0600
Completed with injury	0.16	-0.22	-0.10	-0.04	0.04	0.09	0.07	0.06	0.12	0.0200	0.1090
Attempted	0.07	0.18	0.03	-0.10	-0.07	0.08	0.10	0.13	0.04	-0.0200	0.0150
Simple	0.39	0.36	0.11	0.11	0.15	0.26	0.12	0.12	0.05	0.2800	0.0110
Completed with injury	-0.28	0.27	-0.06	0.01	0.11	-0.02	0.04	0.002	-0.02	-0.0600	-0.1210
Attempted	0.35	0.28	0.17	0.06	0.15	0.31	0.14	0.15	-0.003	0.3300	-0.0180
Purse snatching/pocket picking	0.06	0.18	0.07	0.13	0.05	0.03	-0.05	-0.06	-0.01	-0.0500	-0.0480
Completed	0.06	0.00	0.00	0.00	0.06	-0.007	-0.18	-0.02	0.002	-0.0300	0.0290
Attempted	0.00	0.00	0.00	0.00	-0.001	0.14	0.00	0.00	-0.01	0.0200	-0.0330

Table C-3. Year-to-Year Correlation Coefficients: 1993–2003: Property Crimes

	1993 ¹ -1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
Total property crimes	0.52	-0.08	0.14	0.07	0.66	0.65	0.64	0.71	0.64	0.60
Burglary	0.32	0.01	0.01	0.10	0.29	0.30	0.30	0.33	0.17	0.07
Completed	0.26	0.03	0.01	0.09	0.23	0.24	0.16	0.30	0.10	0.06
Forcible entry	0.01	0.02	-0.07	0.01	0.18	-0.02	0.03	0.08	0.13	0.01
Unlawful entry	0.26	0.11	0.02	0.03	0.19	0.32	0.03	0.38	0.13	0.13
Attempted entry	0.20	0.08	0.02	0.11	0.06	0.09	0.16	0.23	-0.01	0.10
Motor vehicle theft	0.17	-0.13	0.14	-0.06	-0.04	0.08	0.17	0.30	0.13	0.02
Completed	0.05	-0.08	0.03	0.03	0.01	0.08	0.15	0.20	-0.03	0.10
Attempted	0.19	0.02	0.23	-0.11	0.09	-0.02	0.00	0.13	0.14	-0.08
Theft	0.44	-0.14	0.10	0.07	0.60	0.58	0.62	0.67	0.64	0.63
Completed	0.43	-0.15	0.13	0.07	0.59	0.58	0.62	0.67	0.62	0.62
Less than \$50	0.30	-0.10	0.05	-0.03	0.59	0.45	0.44	0.45	0.51	0.52
\$50–\$249	0.27	-0.12	-0.05	0.11	0.35	0.30	0.37	0.41	0.51	0.35
\$250 or more	0.09	-0.10	0.09	0.10	0.16	0.05	0.28	0.34	0.10	0.21
Amount not available	-0.12	-0.02	-0.01	0.02	0.02	0.05	0.05	0.15	0.23	0.12
Attempted	-0.01	-0.07	0.05	-0.04	0.21	0.13	-0.01	0.14	0.15	0.02

¹The 1993 data originated from two half-samples. NCS and NCVS. The correlation calculations for 1993 are based only on the NCVS half-sample.

Table C-4. Year-to-Year Correlation Coefficients: 2003–2014: Property Crimes

	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Total property crimes	0.64	0.31	0.13	0.41	0.39	0.30	0.42	0.35	0.47	0.4000	0.3230
Burglary	0.17	0.10	-0.01	-0.02	0.07	0.31	-0.02	0.11	0.14	0.2600	0.0940
Completed	0.17	0.01	0.02	-0.04	0.03	0.25	-0.02	0.14	0.13	0.2300	-0.0050
Forcible entry	0.07	0.15	0.03	-0.11	-0.10	0.18	-0.03	-0.07	0.15	0.1200	-0.0270
Unlawful entry	0.19	0.02	0.02	-0.11	-0.007	0.17	0.12	0.15	0.06	0.1300	0.0130
Attempted entry	0.02	0.06	0.00	0.03	0.03	0.26	-0.20	-0.10	0.02	0.0100	0.0650
Motor vehicle theft	0.05	0.08	0.00	0.07	0.004	-0.03	-0.08	-0.06	0.21	0.0900	0.1600
Completed	0.12	0.07	0.01	0.07	0.08	0.11	0.006	-0.008	0.07	0.0400	0.1740
Attempted	-0.12	-0.03	0.01	0.04	0.10	0.003	0.06	-0.07	0.20	0.1400	-0.0520
Theft	0.61	0.28	0.05	0.43	0.37	0.17	0.36	0.38	0.47	0.2800	0.2430
Completed	0.59	0.29	0.04	0.45	0.37	0.17	0.33	0.35	0.44	0.2700	0.2640
Less than \$50	0.41	0.22	0.16	0.21	0.16	0.18	0.05	0.11	0.06	0.1000	0.1260
\$50–\$249	0.25	0.15	-0.04	0.41	0.15	0.15	0.22	0.15	0.20	0.1500	0.1110
\$250 or more	0.31	0.20	0.03	0.24	0.43	0.01	0.09	0.05	0.24	0.2100	0.1480
Amount not available	0.15	0.09	0.11	0.15	0.03	0.07	0.11	0.18	0.22	0.0700	0.1660
Attempted	0.08	0.03	-0.01	-0.04	-0.01	0.02	-0.02	0.10	-0.07	0.0100	-0.0330