

Data Processing Procedures

This section describes how the Vermont Center for Justice Research worked with incident-based data to answer the research questions presented in the final report, [Linking Incident-Based Crime Data and Court Records: A Pilot Study of Domestic Relationship and Driving Under the Influence Incidents](#). The process is presented step-by-step, along with a description of the procedures undertaken to complete each step. The final report, as well as the corresponding syntax and sample data files, are available on the JRSA Incident-Based Reporting Resource Center Web site, at http://www.jrsa.org/ibrcc/reports_using_data/state_reports.html.

The objective of this study was to identify National Incident-Based Reporting System (NIBRS) incidents involving a domestic relationship between victim and offender, and to subsequently link such incidents with court data to determine adjudication outcomes. Among the specific goals of the study were determination of the proportion of domestic incidents that resulted in arrest, charge filing, and conviction, as well as to examine for any differences on key NIBRS variables (e.g. weapons use, victim injury, drugs/alcohol) between cases that did not result in arrest or prosecution and those that did. In addition, an exploratory attempt to link Segment 7 Driving Under the Influence (DUI) arrest data with Vermont court data was also conducted.

Syntax examples presented below describe the basic process by which NIBRS data were prepared and used in the analysis, as well as the basic linking process with statewide adjudication data maintained by the Vermont Center for Justice Research (VCJR). The examples were prepared to illustrate the matching processes used at different points in the project.

Step 1: Reading NIBRS Data

NIBRS data used in the study were obtained from two sources. Monthly state submissions by the Vermont Department of Public Safety (DPS) to the FBI were compiled by the VCJR for the years 1993-1996. (This activity was completed under a previous project.) In addition, NIBRS data for 1997 and 1998 were obtained from the FBI through the DPS. Both data sets are similarly constructed, although there are differences in format that required modification of the original program used to read the state submission data.

The syntax file [VT_READIBR.SPS](#), designed to read ASCII FBI data, was run on each year for 1997 and 1998. The SPSS syntax essentially makes seven passes through the file for each record type, with TYPE 1 the administrative segment, TYPE 2 the offense segment, and so forth. After each type is read, an SPSS file with variable labels is created and NIBRS values are added for each variable. Once segment files for each year were created, they were joined to create the files used in this analysis; the specific incidents selected for analysis occurred between 1/1/95 and 12/31/98.

A sample of 11 cases of raw data upon which the VT_READIBR.SPS syntax was run are provided in [VT_READIBR.TXT](#).

Step 2: Identifying Domestic Incidents

The next step in the process was to identify incidents in which a domestic relationship existed. A relatively broad definition of domestic relationship was used, with the goal of eliminating stranger offenses from the analysis. The NIBRS field that provides the relation of the victim to the offender (called RELVTO in this example) from the Victim Segment (Segment 4) was used to identify domestic relationships with a corresponding marker variable created in the file. The program [VT_DOM_REL.SPS](#) contains the syntax for coding the marker variable (MARKER) to 1 if a qualifying relationship was found in the RELVTO variable in the Segment 4 data. In most instances there was only one victim and victim relationship, although the program is designed to capture a domestic relationship on as many as ten victims.

A sample data file ([VT_DOM_MARKER.SAV](#)) of 88 records from the Victim Segment (Segment 4) file contains the results after this process was completed. Only 6 of the 88 sample records involved a domestic victim-offender relationship; these cases have a value of "1" for the marker variable. The remaining incidents did not qualify and were omitted from the study by selecting MARKER = 1 at the end of the VT_DOM_REL.SPS syntax file. A sample data file ([VT_DOM_REL.SAV](#)) of only those incidents containing domestic relationships is provided.

Step 3: Marking Domestic Incidents in Segments 2, 5, and 6

A table of domestic related incidents was subsequently created by aggregating on incident number and originating agency number (ORI), as indicated in the early section of the program [VT_AGGREGATE.SPS](#). The resulting table file is composed of a unique incident number/ORI combination and COUNT variable denoting the number of victim records in the incident. This table was matched against Segment 2 (offense), Segment 5 (offender), and Segment 6 (arrestees) files to mark records as domestic incident records for analysis; the COUNT variable (i.e., COUNT greater than or equal to 1) after the match was used to mark a record tied to a domestic incident. The syntax file VT_AGGREGATE.SPS contains sections that complete this process and save out only those records marked as associated with a domestic incident. Examples of the resulting data files that were used for analysis are found in [DOM_OFFENSES.SAV](#) (42 records), [DOM_OFFENDERS.SAV](#) (47 records) and [DOM_ARRESTEES.SAV](#) (44 records); note that the Segment 4 (victim) data were previously marked in the process described above.

Descriptive and cross-tabular analyses were then conducted on each of the segment files to examine patterns on several key variables found in domestic relationship incidents.

Step 4: Marking Arrest and Prosecution Incidents

One objective of the study was to determine the proportion of incidents that resulted in arrest. This was accomplished by comparing the total number of incidents identified from the Segment 4 marking process to the number of incidents found in the Segment 6 file, which contained only arrests for marked domestic incidents after the matching process noted above. A table was created using the same processes as those noted above to mark Segment 2, Segment 4, and Segment 5 records as incidents associated with an arrest. Analyses were then conducted comparing those incidents that had an associated arrest with those that did not from among the domestic segment files.

Determining which incidents resulted in a prosecution (e.g., charge being filed) required that the incidents resulting in an arrest be matched to adjudication files. This process was rather complex and involved numerous iterations during which data were verified and in some instances manually checked, given an error discovered in the adjudication file incident numbers. Specifically, as noted in the report, most of the incident numbers in the court data were truncated at 8 digits when the field should have been 9 digits. This required a series of matches on the first 8 digits of incident numbers and subsequent verification of other data elements (e.g., offense date, offender age, and gender) to determine the actual court record match associated with the incident number.

The process for matching with court data should be the same in other jurisdictions that include incident numbers in adjudication files. The first step was to match the table of incident numbers from Segment 6 arrests associated with domestic incidents against the filings databases (felony, misdemeanor, and criminal motor vehicle). The example syntax found in [VT_FILINGS.SPS](#) illustrates how this was done with a version of the incident number truncated at 8 digits (CJRINC8F) and the FBI ORI number recoded to the state agency identifier (CJRORI). This process resulted in marking the felony data with matches on the basis of agency ORI and the first 8 digits of the incident number. Subsequent comparisons of incident date and offender characteristics were done to verify a proper match; some of this process was manual because of the ORI truncation in the court data. The process was repeated for misdemeanor and criminal motor vehicle filing data.

After the adjudication cases with matches on ORI and incident number were identified and selected from the filings data, a marker variable was created to indicate that a match had occurred. This process was repeated for both the filings data and disposition data (see report on the differences between these data sets) and is illustrated at the end of the syntax file VT_FILINGS.SPS. The remaining syntax illustrates how the matching variable and additional variables related to the adjudication process were matched back to the NIBRS data to Segment 6. The resulting file in this case is [VT_FILINGS.SAV](#), a sample of which is provided with this report. The markers in VT_FILINGS.SAV (FLNGMAT and DISPOMAT) were then used to create a table and match back to Segments 2, 4, and 5 for the analysis in the report, which compares cases that were prosecuted with those that were not.

Analysis of adjudication outcomes (e.g., conviction rates and sentence types) were conducted entirely on court data from those incidents identified as a NIBRS domestic relationship incident. This process was simplified by using the docket number once an incident was identified on the basis of ORI and incident number. The process would be similar for others using court data in that once the court records have been identified, they could be tracked within the adjudication data system.

Step 5: DUI Arrest Incidents

DUI arrests were identified from the Segment 7 Part B arrest file and selected using a straightforward procedure to select only those offenses designated as DUI (UCR code = 90D) on the arresting offense variable (ARRESOFF). No additional linkage with other files was carried out given the encrypted incident numbers in Segment 7 files, which could not be matched with adjudication data. However, the data were manipulated for use with state data in that ORI codes were related to state police department codes used in the court data, the offense date variable in Segment 7 (ARRDATE) was read out to an ASCII file then read back in to create separate year, month, and day variables (ARR_YR, ARR_MO, and ARR_DA), and age was recoded into an age group. The [VT_DUI.SPS](#) syntax file contains examples of these procedures. The VT_DUI.SPS file also provides a good example of the process for converting ORI numbers to a local number, in this case Vermont police department identifiers (CJRORI). Since the data were never linked, separate analyses were carried out on a selection of departments for which aggregate numbers could be compared between NIBRS and court filing data.