

LAUREN BEATTY: Welcome to a demonstration of the Bureau of Justice Statistics' (BJS) Survey of Prison Inmates Data Analysis Tool, or SPI DAT. This video provides an overview of the data tool and its functionality, and provides some examples on how to interpret results.

The SPI DAT is a dynamic analysis tool that allows users to analyze data from the 2016 iteration of the Survey of Prison Inmates, or SPI. You can produce results as interactive data visualizations, like viewing selected charts or creating custom charts for a range of characteristics of the U.S. prison population.

There are three ways to access the SPI DAT. One way is to go to the BJS home page, click on *Data* tab, and select *Data Analysis Tools*. Scroll down the page to the SPI DAT tool section, and click on the *Resource link*.

The second way to access the tool from the BJS home page is from the survey's Data Collection page. Again, click on the *Data* tab and select *Search Data Collections*. The Survey of Prison Inmates appears on the third page of collections. Scroll down to the survey name and click on it.

From the SPI page, you can learn more about the survey. To access the SPI DAT from this page, scroll down to the *Data Analysis Tool* section, select the plus symbol to expand the box, and then click on the SPI DAT link.

The third way to access the tool is to type the SPI DAT's URL into your browser's address window. The URL for the tool is spi-data.bjs.ojp.gov.

Once you access the tool, you will be on the SPI DAT's home page. The top of the home page provides a brief overview of the tool and the SPI survey, which is the data source.

The rest of the home page highlights two main sections of the tool: *Custom Charts* and *Key Charts*. We will come back to the *Custom Charts*, but first let's first explore the *Key Charts*.

The SPI survey collects information on a variety of topics, and the *Key Charts* in this tool highlight statistics on a few of the important constructs measured through the SPI survey, including statistics that are frequently requested by BJS stakeholders.

There are 10 charts highlighted in this section, including charts on firearm use during the offense that led to the incarceration, prior criminal history including prior number of incarcerations, prior homelessness, pre-prison education, family background, and behavioral and physical health. Each chart is an interactive visualization containing estimates from the 2016 SPI data.

Let's take a closer look at the first key chart as an example, *State and federal prisoners, 2016 - possessed a firearm during the offense*. As you can see, the primary statistic presented in the bars is a percentage. If you scroll over a bar in the chart with your mouse, a box will pop up called the Tool Tip. The Tool Tip shows the title of chart, the label of the response category for that bar, and that bar's associated percentage.

In this example, the top bar representing "Yes" indicates that 20.8% of state and federal prisoners in 2016 possessed a firearm during the offense for which they were incarcerated. The Tool Tip also provides the standard error and weighted count of the percentage displayed.

Each chart contains a menu icon, represented by three stacked lines in the top right corner. Click the menu icon to view options to download the results presented in the chart, print the chart, or view chart footnotes.

If you select *Display/hide footnote* from the list of options, chart-specific footnotes will appear below the x axis. These footnotes provide additional context that is important to correctly interpret the results displayed in the chart.

The first option, *Download/Print PDF Document*, allows users to download a PDF file of the chart. To view the downloaded PDF file, select that option from the menu and either click on the file that appears at the top right corner of your browser window or go to the *Downloads* folder on your computer.

In addition to the results, the PDF file includes the title of the chart, along with general footnotes and source information. The chart will be time-stamped as well, with the date and time the chart was downloaded using Universal Time Coordinated, or UTC time.

Note that when the option to “display” footnotes is selected, the specific footnotes will appear at the bottom of the PDF file. If the option to “hide” footnotes is selected, then the PDF will not include the specific footnotes for the chart. However, the PDF file will always include the general footnotes that could apply to any chart.

The second option, *Download CSV*, provides a CSV file that contains the estimates presented in the chart and the Tool Tip. To view the downloaded CSV file, select that option from the menu and either click on the file that appears at the top right corner of your browser window or go to the *Downloads* folder on your computer.

The CSV file includes the chart estimates, as well as the standard error and weighted count of each percentage in the chart. It also includes the Chart title; Population, Topic, and Variable presented; General and Chart specific footnotes; Source information; and all-important metadata for a chart, including the download date and time.

Note that if specific footnotes apply to a chart, then the CSV file will include them regardless of whether users choose to “display” or “hide” the footnotes, as you can see in this example.

Now let’s explore the *Custom Charts* view of the SPI DAT. To create a custom chart, users must first select an option for each of the three standard filters presented: **Population**, **Topic**, and **Variable** of interest. For **Population**, there are three options that can be selected: *State and federal prisoners combined*, *Federal prisoners only*, or *State prisoners only*.

For **Topic**, there are five filter options: *Demographic characteristics*, *Criminal justice*, *Socioeconomic characteristics*, *Physical and mental health*, and *Substance Use*.

For **Variable**, users will select from a list that is dependent upon the **Topic** selected.

- The *Demographic characteristics* topic includes 12 variables from the SPI survey to create custom visualizations.
- The *Criminal justice* topic also includes 12 variables.
- The *Socioeconomic characteristics* topic includes 13.
- The *Physical and mental health* topic includes 7 variables.
- And the *Substance use* topic includes 4 variables.

To start exploring *Custom Charts*, let’s select *State and federal prisoners* as the **Population**, *Socioeconomic characteristics* as the **Topic**, and *Parent of a minor child* as the **Variable**. Then, we’ll click the *View Custom Charts* button to generate the visualizations.

The chart that appears at the top of the *Custom Charts* view presents the estimates based on the three standard filters that were just

selected on the home page, and those three filters appear directly above the chart. In this example, the first chart shows that 48.1% of state and federal prisoners in 2016 were a parent of a minor child, while 51.9% were not a parent.

Note that near the top of the page is a box of Navigation Instructions that you can view by selecting the plus symbol to expand it. These instructions explain how to navigate the *Custom Charts* view.

In the *Custom Charts* view, the specific footnotes associated with a chart appear under the chart as the default. You can “hide” the footnotes by selecting that option from the menu icon.

The menu icon on the *Custom Charts* view also provides two options to download chart results: a PDF file of the chart image, or a CSV file of the estimates presented in the chart and Tool Tip.

The advantage of the *Custom Charts* view is that it allows users to analyze the three standard filters by additional variables, as you can see here with the *More Filters* option to the right of the chart.

You can select up to four filters that represent characteristics of prisoners in 2016 to provide more detailed visualizations. These four filters include *Age at time of interview*, *Race/ethnicity*, *Sex*, meaning biological sex or sex assigned on their birth certificate, and *Offense type*.

The default *Group 1* and *Group 2* filters are *Age at time of interview* and *Race/ethnicity*, respectively. In other words, the second chart of this *Custom Charts* view presents the estimates of the **Variable** of interest by the *Group 1* filter selected, which in this example is *Parent of a minor child* by *Age at time of interview*.

This chart shows that among state and federal prisoners in 2016 who were ages 18–24, 40.6% were a parent of a minor child, while 59.4% were not a parent.

Similarly, the third chart on this *Custom Charts* view presents the estimates of the **Variable** of interest by the selection in the *Group 2* filter, which in this example is *Parent of a minor child by Race/ethnicity*.

The chart shows that among state and federal prisoners in 2016 who were White, 41.4% were a parent of a minor child, while 58.6% were not a parent.

The last visualization that appears on the *Custom Charts* view is a table with the estimates of the **Variable** of interest by both the *Group 1* and *Group 2* filters. In this example, the table presents the estimates of *Parent of a minor child by Race/ethnicity and Age at time of interview*.

It shows that 62.6% of Black state and federal prisoners in 2016 who were ages 35–44 were a parent of a minor child, while 37.4% were not a parent of a minor child.

Note that when a filter is selected from *Group 1*, that filter will be grayed out in the *Group 2* drop-down list so it cannot be selected again. For example, because *Age at time of interview* is selected as the *Group 1* filter, it cannot be selected from *Group 2* because the results would be redundant.

The SPI DAT is dynamic, so when any of the three standard filters or additional filters are changed, the tool will automatically provide new charts that contain the estimates for the new filters selected.

For example, if **Population** is changed to *Federal prisoners*, then the visualizations on the *Custom Charts* view will update to provide estimates on federal prisoners in 2016 only.

If the **Variable** is changed to *Education completed*, the *Custom Charts* view will update all visualizations to present that **Variable** of interest by the other filters previously selected.

The tool will also automatically update results if options from *More Filters* are changed. For example, if *Sex* is selected as the *Group 1* filter, then the second chart will present the **Variable** of interest—here, that is *Education completed*—by the *Sex* of federal prisoners in 2016.

The table will also update whenever the three standard filters or additional filters are changed. In this example, the table presents estimates on the highest level of education completed among federal prisoners in 2016, by *Race/ethnicity* and *Sex*.

If the **Topic** is changed to *Demographic characteristics*, the **Variable** drop-down list will adjust to include the variables related to that **Topic**, but the SPI DAT will not update until a variable from that new **Topic** is selected, such as *Marital status*.

The SPI DAT allows users to refine visualizations to focus on particular subgroups by providing specific categories within the *Group 1* and *Group 2* filters that can be selected. For example, if you are only interested in results for males, first select *Sex* from the *Group 1 filter*, then select *Male* from the *Group 1 Variable* drop-down list.

The SPI DAT will update to show only two charts. The first chart will present the estimates on the subgroup of the **Population** of interest that is selected from the *Group 1 Variable*, or in this case *males* in federal prison in 2016, by the **Variable** of interest, or *Marital status*.

If no filter is selected from the *Group 2 Variable*, then the second chart presents results for *All* categories, as this is the default selection for the *Group 1 Variable* and *Group 2 Variable*. You can see in this example that the second chart presents estimates on male federal prisoners in 2016 by *Marital status* and *Race/ethnicity*.

If a filter is selected in the *Group 1 Variable* and *Group 2 Variable*, then the SPI DAT will only need to display one chart to present the estimates based on the specific filters selected.

For example, if ages 35–44 is selected from the *Group 2 Variable*, then the tool will display one chart that presents estimates on the marital status of male federal prisoners in 2016 who were ages 35–44.

Users can reset the *Group 1 Variable* and *Group 2 Variable* filters to the default of *All* by clicking on the *Clear Filters* button.

The *Custom Charts* view includes important metadata about the visualizations from the SPI DAT. On the right side of the *Custom Charts* view and under the *Clear Filters* button are two dates.

Data updated represents the date the data were last updated, referring to the database that contains the estimates used to populate the visualizations in the tool. Whenever the database is updated, this date will change.

The *Report generated* date reflects the date that the specific visualizations were created by the user. This is the same date that appears in the downloaded PDF and CSV files.

The metadata also includes three *general footnotes*, which are the same *general footnotes* that appear in the downloaded PDF and CSV

files. While the *general footnotes* do not apply to all visualizations, they apply to several, and two of the footnotes focus on symbols that appear in some visualizations when it is not possible for the SPI DAT to present valid estimates.

To demonstrate the need for those footnotes, let's go back to the charts for male federal prisoners of all ages by *Marital status*. In the second chart, there is a dash instead of a bar for male federal prisoners ages 18–24 who were widowed.

The second general footnote explains that there were 0 sample cases for that combination of filters, and therefore an estimate cannot be presented. This means the SPI survey did not sample any male federal prisoners ages 18–24 who reported being widowed.

For all dashes that appear in charts, the Tool Tip will include a note about the number of sample cases rather than any estimates.

For male federal prisoners ages 18–24 who were separated, there is a tilde in the chart instead of a bar. The first general footnote explains that the estimate is based on fewer than 10 sample cases, which BJS has determined is too small to generate a reliable estimate.

For all tildes that appear in charts, the Tool Tip will also include a note about the number of sample cases rather than any estimate.

The last footnote simply explains that in some charts, details may not sum to 100% due to rounding. This rounding occurs within the statistical software used to run the estimates maintained in the database and the tool itself to produce percentages with one decimal place.

For example, in the second chart, the 55 or older category sums to 100.2%, or more than 100%. The general footnote about rounding is included in the tool to avoid any confusion by users.

The last part of this video presents the supporting materials that the SPI DAT includes for additional information and resources.

Before we look at them though, I want to note the *Return to Home Page* button here on the *Custom Charts* page; it can be used to easily return to the home page of the SPI DAT.

To view the supporting materials of the tool, click on *SPI DAT Supporting Materials* at the top of the home page or *Custom Charts* page to show the drop-down list of options. The first option, *Terms & Definitions*, opens a separate window in your browser that presents the key *Terms & Definitions* that relate to the charts in the SPI DAT.

Some of the information provided in the definitions is included in the chart footnotes. The terms, which mostly reflect the variables or filters available for analysis in the tool, are listed in alphabetical order to allow users to easily navigate the page to find a term.

Many of the definitions include a link to the BJS report where more information can be found. You can click on the link for a report, and a new window will open in your browser to display the report.

To return to the SPI DAT home page to access the other supporting materials, click on the button *Return to SPI DAT Home Page* at the top of the *Terms & Definitions* page.

Another important reference document available for the SPI DAT is the *User's Guide*, which is the second option in the drop-down list. It

contains 10 sections that provide information on what the SPI DAT is, what data are included, and how to use the tool.

In particular, Section 4 provides detailed instructions on how to generate custom charts and illustrates how to interpret the results through pictures and examples, similar to the presentation of the *Custom Charts* provided in this video.

The end of the guide provides users with information on where to direct questions about the SPI DAT and how to cite the SPI DAT when presenting or publishing results generated from the tool.

Lastly, the *Supporting Documents* option provides two links for additional information on the SPI survey. The first link directs users to the SPI Data Collection page on the BJS website, which we visited earlier in this video to learn about one way to access the SPI DAT. This page provides additional information on the SPI survey.

The second link provided under *Supporting Documents* directs users to the 2016 SPI page at the National Archive of Criminal Justice Data, or NACJD. NACJD archives and disseminates data on crime and justice for secondary analysis. This is where BJS archives SPI data and documentation for public use.

This concludes this instructional video on the SPI DAT. If you have any questions about the tool, please email AskBJS@usdoj.gov with the word "SPI DAT" in the subject line, and the BJS statisticians with the requisite expertise will be consulted to provide a timely response. Thank you.