What Paradata Can Tell Us about Online Data Reporting by Juvenile Residential Facilities

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Abstract

The U.S. Census Bureau collects the Census of Juveniles in Residential Placement (CJRP) and the Juvenile Residential Facility Census (JRFC) for the Office of Juvenile Justice and Delinquency Prevention. Paradata captured with online data submissions enable us to tell how often respondents change their answers. We can now tell which questions pose the greatest challenges to respondents. The first section of the CJRP asks for general information about the facility, while the second section of the CJRP is a roster of the juvenile offenders held in the facility. The first section of the JRFC is similar to the first section of the CJRP, while the rest of the sections ask detailed questions about mental health services, educational services, and substance abuse services provided to young persons in the facility. Does it take longer for a facility to respond to the CJRP even though the JRFC asks many more questions? Did respondents get frustrated when reporting online for the CJRP and then switch to paper for the JRFC the following year? The answers to these questions can help us improve the data collection process and enhance the quality of the respondent's survey experience in the future.

Key Words: paradata; respondent burden; online data collection

Introduction

The U.S. Census Bureau has collected the Census of Juveniles in Residential Placement (CJRP) for the Office of Juvenile Justice and Delinquency Prevention (OJJDP) since 1997. The CJRP asks juvenile residential custody facilities in the U.S. to describe each juvenile offender assigned to a bed in the facility on the last Wednesday of October. The CJRP collection is conducted in odd-numbered years.

In 1997, the CJRP replaced the Census of Public and Private Juvenile Detention, Correctional, and Shelter Facilities, also known as the Children in Custody (CIC) census, which began in the early 1970s. Previous censuses collected data on the facilities *and* the juvenile offenders held in the facilities, but asked for aggregate data about the juvenile offenders. See Moone (1998) for more details about the differences between CJRP and the earlier collection.

The Census Bureau has collected the Juvenile Residential Facility Census (JRFC) for the OJJDP since 2000. The JRFC asks juvenile residential custody facilities in the U.S to describe their facilities. The JRFC is conducted in even-numbered years. The JRFC asks about facility characteristics such as size, structure, type, ownership, and security arrangements. The JRFC reports the number of juveniles who died in custody during the past twelve months. The 2014 JRFC also includes sections that ask about mental health services, educational services, and substance abuse services provided to juvenile offenders.

¹ Disclaimer: Any views expressed are those of the author and not necessarily those of the U.S. Census Bureau.

Both the CJRP and the JRFC ask facilities to report the total number of persons assigned to beds, the number of adults, the number of juveniles, the number of juvenile offenders, and the number of juveniles in the facility for reasons other than offenses (also known as juvenile nonoffenders). As Moone (2000) notes, OJJDP decided that the burden on respondent facilities is too great when asking the detailed questions about the facility in addition to the questions about each juvenile offender. The detailed questions about the facility are asked in the JRFC, while the detailed questions about the individual offenders are asked in alternate years in the CJRP. Both data collections are voluntary.

The publication *Juveniles in Residential Placement, 2013* (Hockenberry) provides the following definition for juvenile residential facilities:

Juvenile residential facilities are places that house persons younger than 21 as a result of contact with the justice system. Federal facilities, adult prisons or jails, and facilities exclusively for drug treatment, mental health treatment, or for abused or neglected youths are excluded from both the CJRP and the JRFC.

Readers who wish to view the CJRP or JRFC questionnaires can find similar questionnaires from earlier data collections at the National Archive of Criminal Justice Data. The questionnaire used for the 2013 CJRP was similar to the 2011 CJRP questionnaire. The questionnaire used for the 2014 JRFC was similar to the 2010 JRFC questionnaire.

Research motivation

While the Census Bureau continues to mail paper questionnaires to juvenile facilities for both the CJRP and the JRFC, the online response option was offered starting in 2010. The universe for both data collections is the same; the differences between the censuses are in the questions asked each year.

Previous research (Dorinski and West) of online reporting in the Annual Survey of Jails revealed that facilities had trouble reporting detailed inmate counts. Some facilities spent much longer in the online reporting system than anticipated. We were curious to see if there were similar difficulties with either the CJRP or the JRFC in the online reporting system. If facilities find the online reporting system difficult to use for the CJRP, will they switch back to the paper questionnaire for the JRFC the following year?

Paradata captured by online reporting system

Both the 2013 CJRP and the 2014 JRFC used the Census Bureau's Centurion system for online reporting. The Centurion system captures paradata in XML files. Each action has an associated time stamp. Analysts can tell what operating system the respondent is using and how he or she navigates through the online instrument. The files capture the values that the respondent enters, as well as any changes, any error triggers, and the links the respondent is accessing, such as the survey instructions page or the frequently asked questions page. See Dorinski and West for more details about the Centurion system and a screen shot showing Centurion paradata for a test case.

Online reporting for 2013 CJRP

There were 2,293 open juvenile residential facilities on the 2013 CJRP final file. 2,111 of the 2,293 facilities responded to the 2013 CJRP, for a 92% unit response rate. 1,099 open

facilities used the online reporting option for the 2013 CJRP. The first section of the 2013 CJRP asked questions about the facility, while the second section asked the facility to provide a roster of the juvenile offenders held in the facility. For online reporters, item response rates to questions in the first section ranged from 89.3% to 100%.

For the second section, facilities could either enter the characteristics of each juvenile offender on the screen, or upload a file in Centurion. 556 facilities entered the characteristics for 9,192 juvenile offenders. 238 facilities uploaded files for 15,248 juvenile offenders. 24,440 juvenile offenders (45% of the 54,148 juvenile offenders on the 2013 CJRP final file) were reported through Centurion. The largest number of offenders entered on the screen was 197, while the largest number of offenders in an uploaded file was 621.

When facilities enter the offender data on the screen, the data are edited within Centurion. When the facilities upload a data file for the offender roster, the file is uploaded to a separate processing system for editing. 8,914 of the 9,192 offender records (97%) entered on the screen had answers for all the juvenile offender characteristics.

153 facilities have juvenile offenders but neither entered the juvenile offender data on the screen nor uploaded a file for the questions in the second section. Nine facilities have juvenile offenders and used *both* reporting options: they entered some juvenile offender data on the screen *and* uploaded a file for the questions in the second section.

Online reporting for 2014 JRFC

There were 2,223 open juvenile residential facilities on the 2014 JRFC final file. 1,942 of the 2,223 facilities responded to the 2014 JRFC, for an 87% unit response rate. 996 open facilities used the online reporting option for the 2014 JRFC. The first section of the JRFC is similar to the first section of the CJRP, while the rest of the sections ask detailed questions about mental health services, educational services, and substance abuse services provided to young persons in the facility.

Table 1 shows the response patterns by section for facilities using the online reporting option in the 2014 JRFC. A check mark indicates that the facility answered questions in the section. 986 (99%) of the 996 facilities using the online reporting option answered all the sections for the 2014 JRFC.

Table 1. Response patterns for 2014 JRFC online reporters by section

Section 1: General Facility Information	Section 2: Mental Health Services	Section 3: Educational Services	Section 4: Substance Abuse Services	Section 5: The Last Month	Section 6: The Last Year	Section 7: General Information	Facilities
1							1
1				1	1		6
1	1				1	1	2
1	1	1	1			1	1
1	1	1	1	1	1	1	986
							996

Source: U.S. Census Bureau 2014 Juvenile Residential Facility Census paradata

Time spent in Centurion

Figure 1 shows the amount of time facilities spent online for those facilities that entered data for their juvenile offenders on the screen in the 2013 CJRP. As expected, as the number of offenders increased, the amount of time spent in the online reporting tool increased. One facility keyed the data for 197 juvenile offenders, and spent just over seven hours in the online reporting tool.

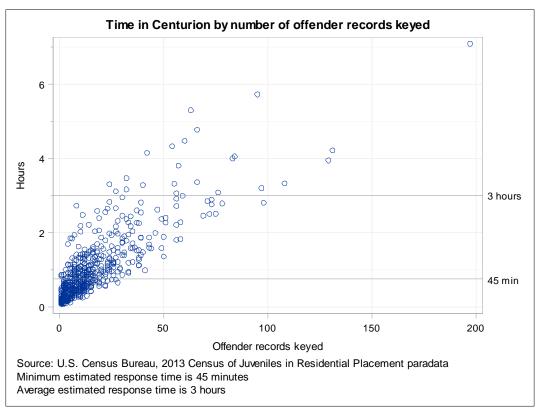


Figure 1. Time spent in Centurion for 2013 CJRP by number of offender records keyed

The R^2 for a robust regression model with the number of offender records keyed as the effect and the time in the online reporting tool as the response is 0.41.

The minimum estimated response time for CJRP is 45 minutes, and the average estimated response time is 3 hours. The estimates are in the clearance package submitted to the Office of Management and Budget. Those estimates do include time to gather records. The time spent in the online reporting tool may not reflect the time spent gathering records.

The online reporting tool times out after 15 minutes of inactivity. It is possible that the respondents were doing other things while logged into the online reporting tool, such as answering email or telephone calls.

Some facilities spend very little time in the online reporting tool. Past research (Dorinski and West, 2014) and some comments from respondents indicate the some respondents fill out the paper questionnaire that they receive in the mail and then key the data into the online reporting tool. Other respondents may be gathering records while in the online reporting tool.

Edit messages in Centurion by survey

We looked at the number of edit messages seen by facilities on each question and the number of times facilities changed answers on each question to see if some questions were more difficult for facilities to answer.

521 (47%) of the 1,099 open facilities using online reporting for the 2013 CJRP did not see any edit messages. 510 facilities saw 1 to 5 edit messages. Most of the 1,039 edit messages in the second section were for leaving juvenile offender characteristics blank. 226 of the 787 edit messages in the first section were for leaving items on the contact information page blank.

23 facilities provided final answers for counts for juvenile nonoffenders, juvenile offenders, and adults that did not add up to the reported number of persons assigned to beds, while 19 facilities provided final answers for counts for juvenile nonoffenders and juvenile offenders that did not add up to the reported number of juveniles for the 2013 CJRP.

Both forms ask for five population counts: total persons assigned to beds, total adults, total juveniles, number of juvenile offenders, and number of juvenile nonoffenders. 141 open facilities using the online reporting option for the 2013 CJRP changed at least one of those population counts while using the online reporting tool, with nine facilities making six or more changes to the population counts.

371 (37%) of the 996 open facilities using online reporting for the 2014 JRFC did not see any edit messages. 591 facilities saw 1 to 5 edit messages. 240 edit messages were for leaving items on the contact information page blank, 217 edit messages were for leaving a question about Alcoholics Anonymous or Narcotics Anonymous blank, and 189 of the edit messages were related to the five population counts on the questionnaire. These edit messages accounted for about a third of the edit messages that respondents saw in the online reporting tool in 2014.

20 facilities provided final answers for counts for juvenile nonoffenders, juvenile offenders, and adults that did not add up to the reported number of persons assigned to beds, while 17 facilities provided final answers for counts for juvenile nonoffenders and juvenile offenders that did not add up to the reported number of juveniles for the 2014 JRFC.

74 open facilities using the online reporting option for the 2014 JRFC changed at least one of the five population counts, with one facility making seven changes.

Most difficult questions by year

For the 2013 CJRP, the questions about population counts (total persons assigned to beds, total adults, total juveniles, juvenile offenders, and juvenile nonoffenders) had the most data changes. Figure 2 shows an example of the edit message that a respondent sees when the number of juvenile nonoffenders plus the number of juvenile offenders does not add up to total juveniles in the 2014 JRFC². For the JRFC, each population count was on a separate screen. For the CJRP, the counts for total adults and total juveniles were on one screen, but the other counts were on separate screens. The respondent might be able to resolve problems more quickly with the population counts if the edit message includes the numbers that the respondent has entered.

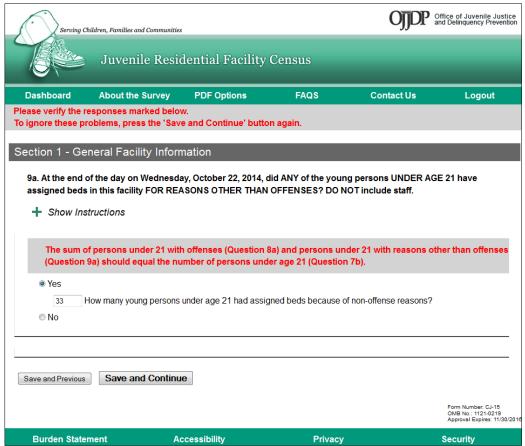


Figure 2. Screen shot of edit message from 2014 JRFC on juvenile nonoffenders screen Source: U.S. Census Bureau, 2014 Juvenile Residential Facility Census

² Unfortunately, I do not have a screen shot that shows the edit message for the 2013 CJRP. However, the edit message display was similar to that used for the 2014 JRFC.

Respondents also had difficulties with the questions about population counts in the 2014 JRFC, but there were more edit messages associated with one other question specific to the JRFC, in the substance abuse services section. Figure 3 shows the question as it appears in the online reporting tool. If the facility does not provide self-led, self-help groups, such as Alcoholics Anonymous or Narcotics Anonymous, there is no option to indicate that those groups are not available. If the respondent tried to leave the question blank, they saw an edit message encouraging them to answer the question.

197 facilities saw edit messages on this question about self-led, self-help groups. 48 of those facilities left all the boxes blank in their final answer, while 67 facilities selected the box for "other" and wrote in some text to indicate that they do not provide these groups. The remaining 82 facilities chose answers that resolved the edit message. Perhaps a box for "Not provided" should be included in this question in future JRFC data collections.



Figure 3. Question that had most edit messages in online reporting tool for 2014 JRFC Source: U.S. Census Bureau, 2014 Juvenile Residential Facility Census

Comments from online reporters

In both data collections, respondents had an opportunity to provide comments at the end of the data collection tool. In some cases, respondents gave us good suggestions for improving the online reporting tool, while other respondents explained that their data categories do not match the categories in the survey. Below are some comments from the 2013 CJRP:

Some response boxes were not long enough to provide complete answers.

Your numeric category scheme for offenses demonstrates the intelligence of your staff and those in the federal government in general. This display is further compounded by the fact that you ask us for the most severe offense and yet the

numbering in the scheme has no inherent ordering related to severity, making it that much more difficult for large counties such as us to provide the data as you requested it.

Due to staff time constraints, we were unable to match our juveniles' most serious offenses with the specific offense codes provided in the survey.

The "two or more races" category ... does not currently exist in ... data. All individuals are categorized into one of the first 6 response options.

Figure 4 shows a screen shot from a test case for the 2013 CJRP. At the top of the screen, the "If other please specify" is for the question "Which one of the following placed this person at this facility?" The box to write in another answer will only allow 20 characters. Respondents can provide only 20 characters when specifying the answer for the level of the court, probation or law enforcement agency, which placed this person at this facility. Some respondents use abbreviations to fit the 20 character limit. In some cases, an analyst has to follow up with the respondent to understand the abbreviated answer.

In the first section of the 2013 CJRP, the boxes to write in the name of the larger agency, the name of the private agency that owns the facility, or the name of the private agency that operates this facility allowed 30 characters, but that was not enough space for some facilities. Some facilities do write in the full name of the agency in the comments section at the end of the data collection tool. We allow 45 characters for facility name in our internal database. We should allow the name of the larger agency, the name of the private agency that owns the facility, or the name of the private agency that operates this facility to be as long as the facility name.

Figure 4 also shows the drop down menu for the most serious offense. Note that code 23 is murder, manslaughter, negligent homicide.

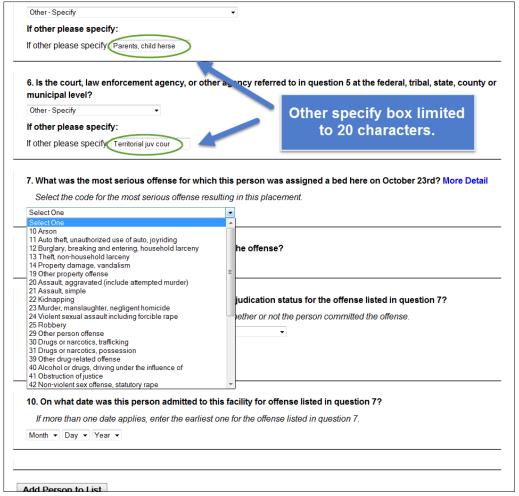


Figure 4. 2013 CJRP juvenile offender page in online data collection tool Source: U.S. Census Bureau, 2013 Census of Juveniles in Residential Placement

Figure 5 shows the current Uniform Crime Reporting (UCR) Summary Reporting System crime classification. The offenses in Part I in the figure are in a ranked order. The lower the number associated with the classification, the more serious it is. Note that murder, manslaughter, and negligent homicide are at the top of the UCR classification list. It is not clear why the CJRP offense codes do not follow a classification scheme that is more similar to the UCR summary reporting system classification scheme.

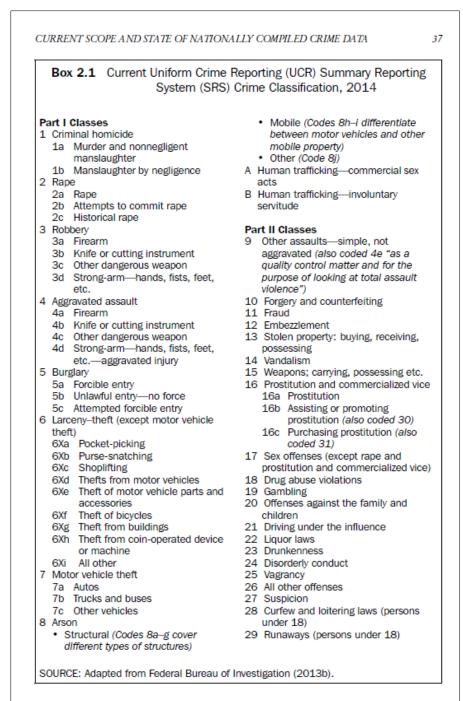


Figure 5. Crime classification table from *Modernizing Crime Statistics—Report 1: Defining and Classifying Crime*, p.37.

Below are some comments from the 2014 JRFC:

A comment box for each section would be helpful.

I was unable to fit the full answer as it would not fit in the box provided: ... (full name of larger facility or private agency that owns or operates the facility).

It would be helpful in the online survey if you have any errors in the review screen they show up in red instead of black like the ones with 0 problems. That way they would stand out more. Thanks!

Your specify sections would not allow me put more than about six words in the box.

Figure 6 shows that the box to provide the name of the private agency that owns the facility is limited to 30 characters.

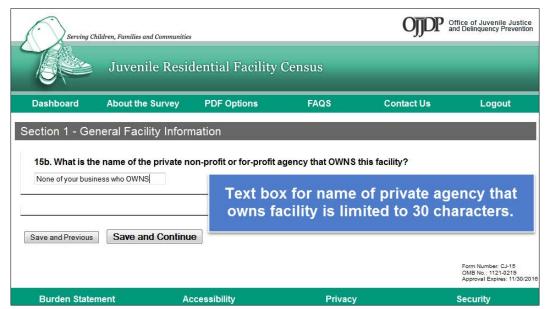


Figure 6. 2014 JRFC page to provide name of private agency that owns the facility Source: U.S. Census Bureau, 2014 Juvenile Residential Facility Census

Figure 7 shows the review screen for Section 1 for a test case in Centurion. In the future, we could give the respondent the ability to filter that list, to see only the questions that have issues.

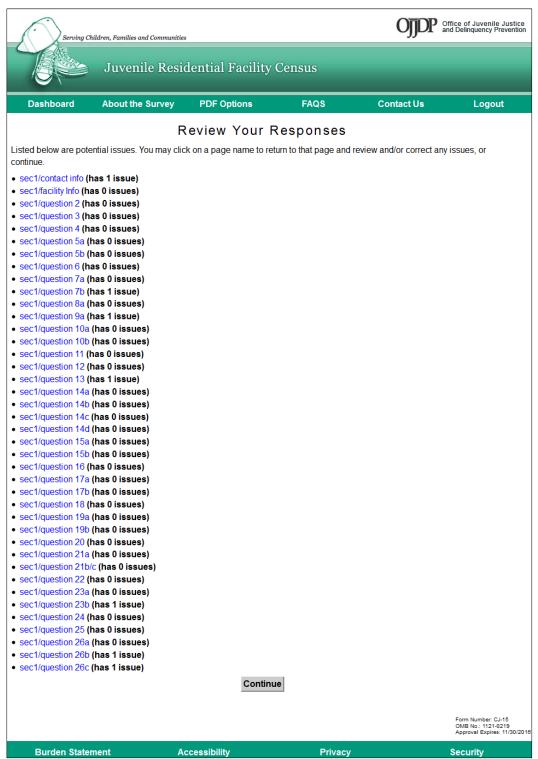


Figure 7. 2014 JRFC review screen for Section 1

Source: U.S. Census Bureau, 2014 Juvenile Residential Facility Census

Some 2013 online reporters switched to other methods for 2014

1,099 open facilities used the online reporting option for the 2013 CJRP. What method did those facilities use when responding to the 2014 JRFC? Figure 8 shows that 714

(65%) of those facilities were open in 2014 and reported online. 224 (20%) of those facilities switched to mail for the 2014 JRFC.

If we only look at the number of online reporters over time, we miss the fact that some online reporters one year are switching back to paper the next year.

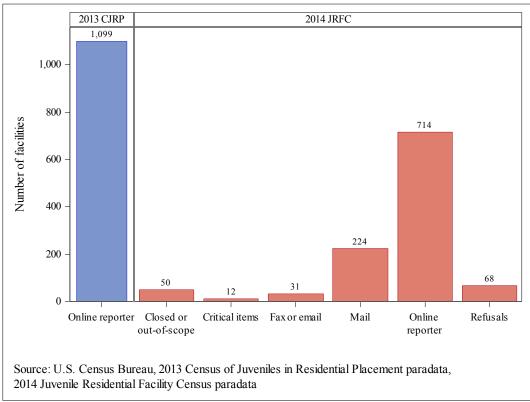


Figure 8. Tracking 2013 CJRP online reporters into 2014 JRFC data collection

Recommendations

Include another response box for self-led, self-help groups question on JRFC

The edit message prompting respondents about leaving the question blank is getting some facilities to answer the question. Including a box for "No such groups provided" would allow those facilities without such groups to answer the question without triggering an edit message.

Allow respondents to filter the section review screen

Respondents should be able to see just the questions that have issues.

Include reported counts in edit messages for population counts

The population counts (total persons assigned to beds, total adults, total juveniles, juvenile offenders, and juvenile nonoffenders) are spread out over several screens. To try to resolve issues, the respondents have to navigate back and forth. Centurion should show the counts that the respondent entered all together on one screen, and then show how the numbers add up. That might help the respondents resolve these edit messages faster.

Provide estimated time in CJRP for facilities to key offender data

Figure 9 shows the instructions for reporting the juvenile offender data in the 2013 CJRP. Uploading a data file was suggested for larger facilities, with no guidance on how large a larger facility is, or how long keying the data in Centurion would take. We could suggest that facilities consider uploading a file if they have 50 or more offenders. We could provide a range of times based on the 2013 CJRP paradata, for facilities with 50 to 99 offenders, 100 to 149 offenders, etc.

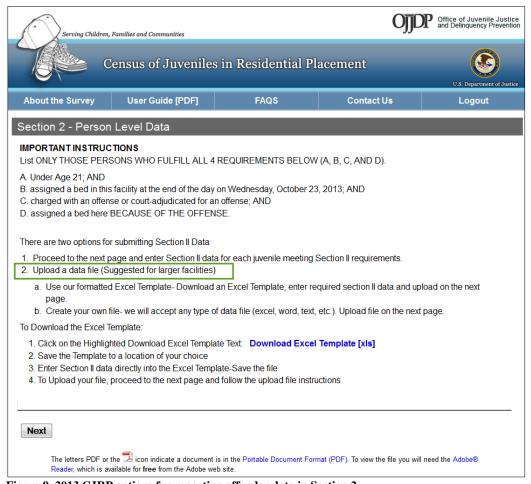


Figure 9. 2013 CJRP options for reporting offender data in Section 2

Source: U.S. Census Bureau, 2013 Census of Juveniles in Residential Placement

Continue analyzing the paradata for future data collections

255 open facilities that used the online reporting option for the 2013 CJRP and were still open in 2014 opted to use another reporting method for the 2014 JRFC. We should continue analyzing the paradata to see what other improvements could be made to make the reporting process for these voluntary data collections easier for the facilities.

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