

What Paradata Can Tell Us About the Annual Survey of Jails

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Abstract

The Census Bureau collects the Annual Survey of Jails for the Bureau of Justice Statistics. Respondents have the option to fill out a paper questionnaire or respond online. There are four versions of the questionnaire, with smaller facilities asked fewer questions. The paradata captured with online submissions enable us to tell how often respondents change their answers. We can now tell which questions pose the greatest challenges to respondents. We can also get better estimates of how long it takes a respondent to complete each version of the questionnaire. The Census Bureau has collected paradata for the Annual Survey of Jails through three annual collection cycles, so we can also see if the respondents have fewer difficulties with online reporting as they become accustomed to online reporting. Does the facility's average completion time or average number of edit messages decrease during the second or third collection cycle? 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.

Keywords: paradata; respondent burden; online data collection

Introduction

The Census Bureau has collected the Annual Survey of Jails (ASJ) for the Bureau of Justice Statistics since 1982. The ASJ consists of a sample of local jail jurisdictions used to detail the characteristics of local inmates nationwide as of the last weekday in June each year. Data collected include counts for the confined and nonconfined jail population, the average daily population, jail capacity, number of admissions and releases, and sex, race, and Hispanic origin subtotals. The current sample uses the 2005 Census of Jail Inmates as the universe.

The universe of local jails is highly skewed. Jail jurisdictions holding fewer than 100 inmates accounted for 59 percent of all jail jurisdictions in 2006, but held only 8 percent of the jail population. Jurisdictions holding 1,000 or more inmates in 2006 accounted for 5 percent of the local jail jurisdictions and held half the nation's jail population (Stephan and Walsh, 2011). The fifty largest local jail jurisdictions in 2010 had an average daily population that ranged from 2,194 in Franklin County, OH to 16,862 in Los Angeles County, CA (Minton, 2011).

¹ Disclaimer: This report is released to inform interested parties of research and to encourage discussion of work in progress. The views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.

Jurisdictions were included in the ASJ sample with certainty if they met one of two size cutoffs:

- Held only adults on the reference day in 2005 and had an average daily population of 750 or more, or
- Held at least one juvenile on the reference day in 2005 and had an average daily population of 500 or more.

Regional jails serve multiple jurisdictions and are included in the sample with certainty.

The ASJ has four form versions (CJ5, CJ5A, CJ5D, and CJ5DA). The CJ5 and the CJ5A are the short version, while the CJ5D and the CJ5DA are the long version. The short version has 68 questions covering the demographic characteristics of the confined and nonconfined jail population. The long version has 99 questions; the additional questions focus on staff safety and security.

The CJ5 (short) form version is used for confinement facilities run by a local law enforcement agency. The CJ5A (short) form version is used for privately owned or operated confinement facilities. Jurisdictions receiving the CJ5 or CJ5A are the smaller jurisdictions. The CJ5D (long) form version is used for confinement facilities run by a local law enforcement agency in jurisdictions that met one of the size cutoffs. The CJ5DA (long) form version is used for multi-jurisdiction facilities or privately operated facilities in jurisdictions that met one of the size cutoffs.

Centurion system for online reporting

The 2011 data collection cycle was the first in which ASJ respondents had the option of reporting online using the Census Bureau's Centurion system. The Centurion secure Internet data exchange system is a web-based framework for the design, delivery, and execution of surveys, censuses, and other data collection and data exchange efforts over the Internet. The enterprise-level solution offers data collection areas the ability to reach a large number of potential respondents online, in a truly customizable manner to suit their business needs.

By utilizing the services of Centurion, census and survey sponsors enable the public to furnish the Census Bureau with high quality data via the Internet in a secure manner. Centurion allows the Census Bureau to collect data more cost effectively and with a higher degree of accuracy as compared to traditional data collection methods. The system allows for dynamic response applications (including pre-fills from previously answered questions or prior period data), interactive web forms, fillable forms, and file transfers and uploads as mechanisms available to data providers for reporting data. These mechanisms have a full host of features to reduce the user burden and enhance data quality.

Centurion can be used for self-response by respondents and data providers, for computer-assisted telephone interviewing and computer-assisted personal interviewing by Census Bureau interviewers, by Census Bureau analysts and keyers, and can even be used "offline", or in disconnected mode, by porting the code base to laptops and certain tablet form factors.

Paradata captured by Centurion

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, edit messages displayed, and links the respondent is accessing, such as the survey instructions page and the frequently asked questions page. Figure 1 shows some of the paradata for a test case in Centurion.

Figure 1. Example of Centurion paradata for a test case

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</event>
<event type="failed_login" time="1340839936" page="login"/>
- <event type="login" time="1340839957" page="login">
  <environment width="1136" height="736" useragent="Mozilla/5.0 (Windows NT 5.1; rv:12.0)
    Gecko/20100101 Firefox/12.0"/>
</event>
<event type="entry" time="1340839958" page="supplied_by"/>
- <event type="field_change" time="1340840006" page="supplied_by">
  <field name="supplied_by_name" value="Andy Taylor"/>
</event>
- <event type="field_change" time="1340840014" page="supplied_by">
  <field name="supplied_by_title" value="Sherri"/>
</event>
- <event type="field_change" time="1340840038" page="supplied_by">
  <field name="supplied_by_title" value="Sheriff"/>
</event>
- <event type="field_change" time="1340840053" page="supplied_by">
  <field name="supplied_by_email" value="andy@mayberry.org"/>
</event>
<event type="next_action" time="1340840116" page="supplied_by"/>
<event type="entry" time="1340840116" page="supplied_by"/>
- <event type="error_trigger" time="1340840116" page="supplied_by">
  <error message="Please provide a valid phone number"/>
</event>
- <event type="field_change" time="1340840146" page="supplied_by">
  <field name="supplied_by_phone_1" value="301"/>
</event>
- <event type="field_change" time="1340840148" page="supplied_by">
  <field name="supplied_by_phone_2" value="555"/>
</event>
<event type="entry" time="1340840154" page="dashboard"/>
<event type="next_action" time="1340840154" page="supplied_by"/>
- <event type="field_change" time="1340840154" page="supplied_by">
  <field name="supplied_by_phone_3" value="0000"/>
</event>
<event type="exit" time="1340840533" page="dashboard"/>
- <event type="hyperlink" time="1340840533" page="dashboard">
  <link url="https://asj-sherw010.centurion-qa.ssd.census.gov/asj/sec1/s1q1"/>

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Changes across the collection cycles

The 2011 online instrument mimicked the paper questionnaires, but organized the questions so that visually, the respondent was not overwhelmed with numerous questions on one screen. The first section of the survey asked for overall population counts (confined in the jail, under jail supervision but not confined), while later sections asked for counts of subgroups that should add up to the overall population counts. The questions asking for subtotals by sex, race and Hispanic origin, conviction status, and program status included total boxes that should match the number of confined persons or nonconfined persons reported in the first question on the survey.

Contrary to the 2011 instrument, in the 2012 and 2013 online instruments, respondents could not enter data in the total boxes for those questions. The Centurion system carried forward the data reported in the first question. See Figure 2 for an example.

Figure 2. Screen shots from 2012 Centurion, showing the count from first question carried forward to another question

I.1. On June 29, 2012, how many persons under the supervision of your jail were 2011 DATA

a. **CONFINED** in your jail facility? Actual Value 74 (Actual Value)
 + Who's included?

b. **Under jail supervision but NOT CONFINED?** Actual Value 0 (Actual Value)
 + Who's included?

c. **TOTAL** (Sum of items I.1a and I.1b) Actual Value

II.1. On June 29, 2012, how many persons CONFINED in your jail facility were —

a. **Adult males** (age 18 or older) Actual Value

b. **Adult females** (age 18 or older) Actual Value

c. **Males under age 18** Actual Value

d. **Females under age 18** Actual Value

e. **TOTAL** (Sum of items II.1a to II.1d should equal item I.1a) Actual Value

For the 2011 and 2012 data collection cycles, the Census Bureau mailed out a cover letter and paper questionnaire to each facility in the sample. The cover letter offered the option of reporting online via Centurion. For the 2013 data collection cycle, respondents only received a flyer containing the instructions for reporting online via Centurion. Jurisdictions were able to print out a blank questionnaire via the Centurion system or request a paper copy via email or phone.

Form-free mail package in 2013 had an effect

A little less than half (46 percent) of the ASJ sample submitted data online during the 2011 cycle. During 2012, the popularity of the system began to increase with 50 percent of the jails submitting via the web. In 2013, the majority (77 percent) of the jails completed ASJ using the online option. The form-free mail package in 2013 was effective in getting jails to try the Centurion system (98 percent of the jails logged on to Centurion); but 181 jails (19 percent) logged on and only provided contact information. We may need to do more to encourage respondents to submit their data online.

Table 1 shows the number of facilities we mailed a survey package by year, and the various outcomes in the paradata file by year.

Table 1. Facilities mailed survey package by year

Outcome in paradata file	Year		
	2011	2012	2013
Jails answering at least one survey question in Centurion	432	463	714
Jails answering survey questions in Centurion but deemed out of scope	9	14	17
Jails logging on and only providing contact information	13	13	181
Jails receiving mail packages at beginning of collection cycle	930	929	929
Percentage of jails in paradata file	49%	53%	98%

Source: U.S. Census Bureau, 2011-2013 Annual Survey of Jails paradata

Average completion time by form type

The Bureau of Justice Statistics suggests an estimated burden time for respondents of 75 minutes for the short CJ5 and CJ5A forms and 120 minutes for the longer CJ5D and CJ5DA forms². See Figure 3 for the average completion time by form type by year. The boxes in the box plots in Figure 3 show the completion time for the middle fifty percent of the respondents by form. The long upper tails indicate that some respondents are spending several hours trying to complete the survey. However, most respondents are well within the expected range when completing the survey online, excluding any other time spent to research the data to complete ASJ.

The average completion times ranged from 22.9 minutes to 68.9 minutes, and the maximums ranged from 40.2 minutes to 383.2 minutes. Centurion times out after 15 minutes of inactivity. We note that we cannot tell if the respondent actually spent all that time engaged with the form. It is possible that the respondent was distracted, and had to answer an email, answer a phone call, speak with a coworker, etc.

We also have reason to think that some respondents are filling out the paper form first, and then simply keying their answers into Centurion. The shortest completion times ranged from 5.1 minutes to 12.3 minutes. In 2011, a respondent provided 73 survey items on the long form in 7.2 minutes without triggering any edit messages. In 2012, a respondent provided 85 survey items on the long form in 9 minutes without triggering any edit messages.

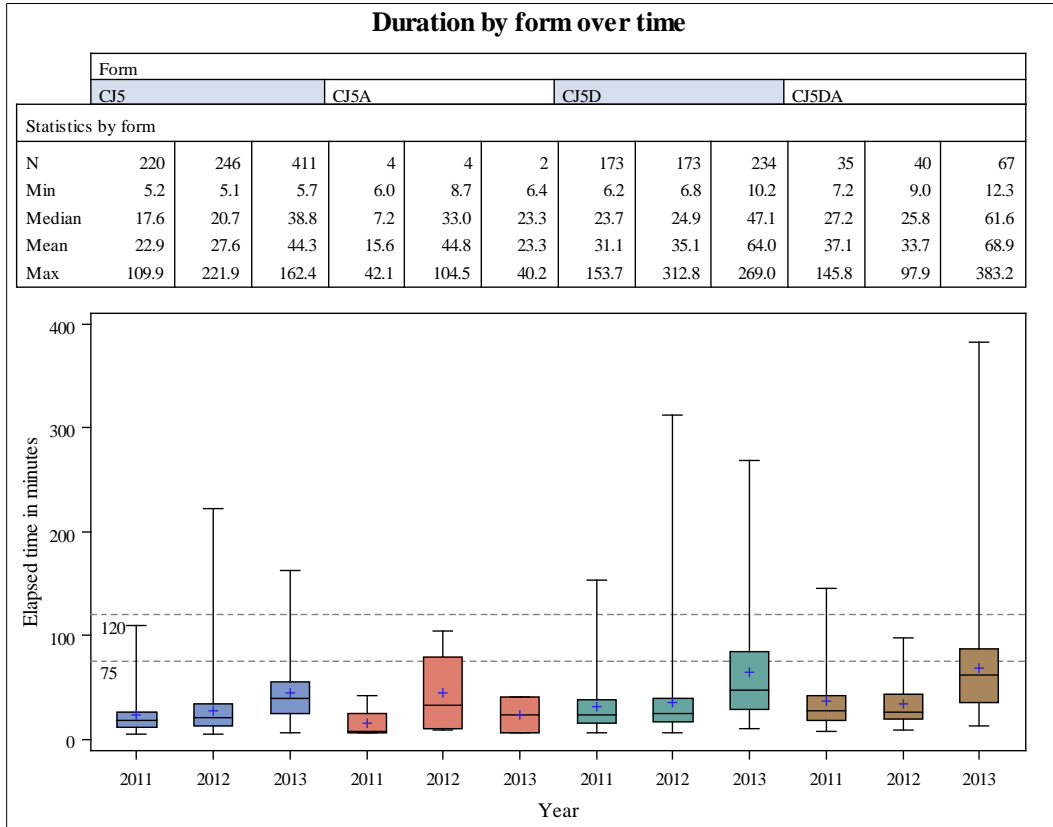
² Readers who wish to look at all the questionnaires may find copies on the Bureau of Justice Statistics web site at <http://www.bjs.gov/index.cfm?ty=dcdetail&iid=261>.

The Bureau of Justice Statistics archives their data at the National Archive of Criminal Justice Data. The questionnaires are included in the codebook for each collection.

<http://doi.org/10.3886/ICPSR33722.v1> is the persistent URL for the 2011 Annual Survey of Jails.

<http://doi.org/10.3886/ICPSR34884.v1> is the persistent URL for the 2012 Annual Survey of Jails.

Figure 3. Average completion time by form type by year



Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

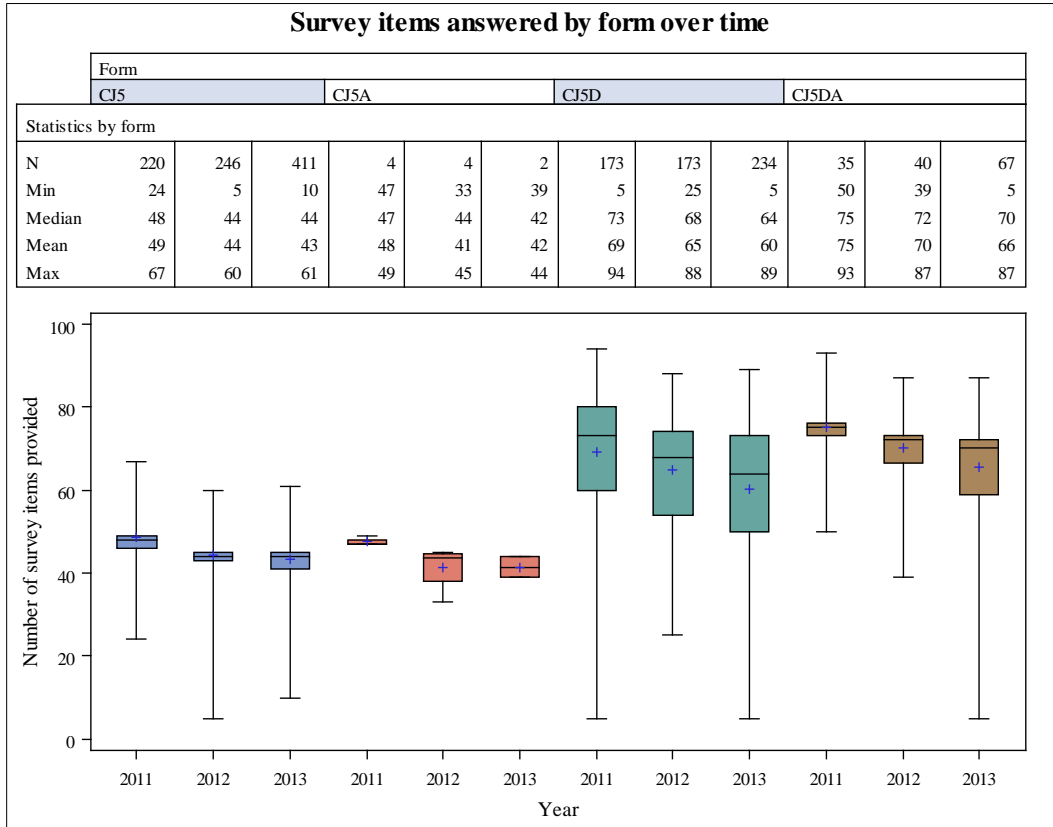
Survey items answered by form type over time

Figure 4 shows the number of survey items answered by form type over time. The boxes in the box plots show the number of survey items answered by the middle fifty percent of the respondents by form. The tails of the box plots extend to the extreme values.

In 2011, respondents reporting online had to enter totals expected to match to numbers entered earlier in the survey. For 2012 and 2013, Centurion pre-filled those totals based on what the respondent reported, so there are fewer possible survey items to answer in 2012 and 2013. There were 68 survey items on the CJ5 and CJ5A in 2011, and 97 survey items on the CJ5D and CJ5DA. For 2012 and 2013, respondents could only answer 62 of the survey items on the CJ5 and CJ5A, and 90 of the survey items on the CJ5D and CJ5DA.

In the first section of the survey, jails report counts for the confined and nonconfined population. The nonconfined population includes persons under jail supervision in electronic monitoring programs, in community service programs, and in other pretrial supervision programs outside the jail. If a jail reports no persons under jail supervision in the community, they skip the section of the survey that asks detailed questions about the population supervised in the community, which accounts for 18 survey items.

Figure 4. Survey items answered by form type by year



Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

Edit messages by form type over time

Edit messages appear for a variety of reasons. When first entering the form, a respondent sees a hard edit asking them to provide their contact information if they have failed to do so. The respondent cannot continue the survey without providing this information because the Census Bureau or Bureau of Justice Statistics analyst needs it to contact a respondent regarding any concerns or inquiries. All other edits in the form are soft edits. Unlike hard edits, a respondent can choose whether to acknowledge or ignore a soft edit under the philosophy that if a respondent is forced to respond to an edit, they may choose to cease with the data submittal all together.

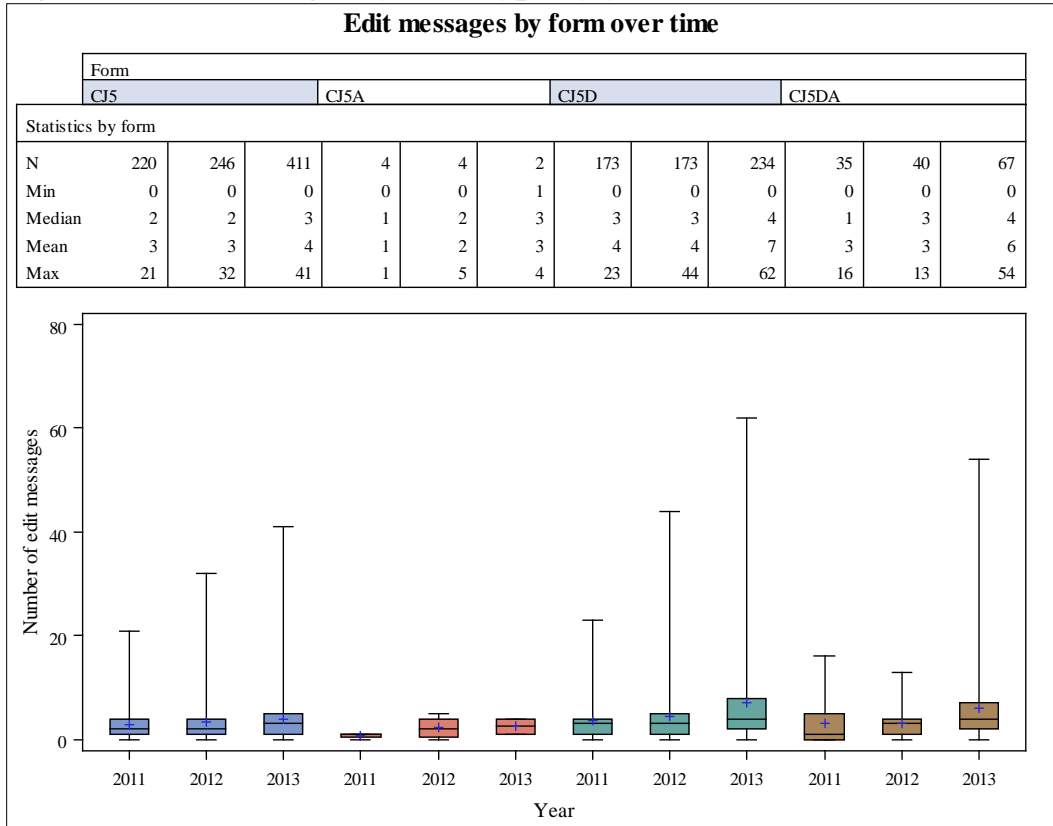
Typically, respondents see error messages indicating detail and total discrepancies. To assist respondents, totals for the confined and non-confined populations reported in question 1 are pre-filled in later items that detail demographic information of the jail population. Conversations with respondents indicated that when totals were not pre-filled, they spent extra time surfing between pages to remember or match totals originally reported.³ If the details fail to sum to the reported total, respondents are notified of the differences and have the ability to update if necessary.

³ Many jail reporting systems maintain counts on a rolling basis. As a result, it is difficult for respondents to match numbers after the original report is extracted from the data management system.

Figure 5 displays the descriptive statistics for edit messages by form by year. While the average number of edit messages by form seems reasonable, ranging from one to seven, note that some respondents see twenty or more edit messages when trying to complete this survey online.

The boxes in the box plots in Figure 5 show the number of edit messages seen by the middle fifty percent of the respondents by form. The long upper tails on some of the box plots suggest that some respondents are struggling with the survey, which will be discussed in a later section of the paper.

Figure 5. Edit messages by form type by year



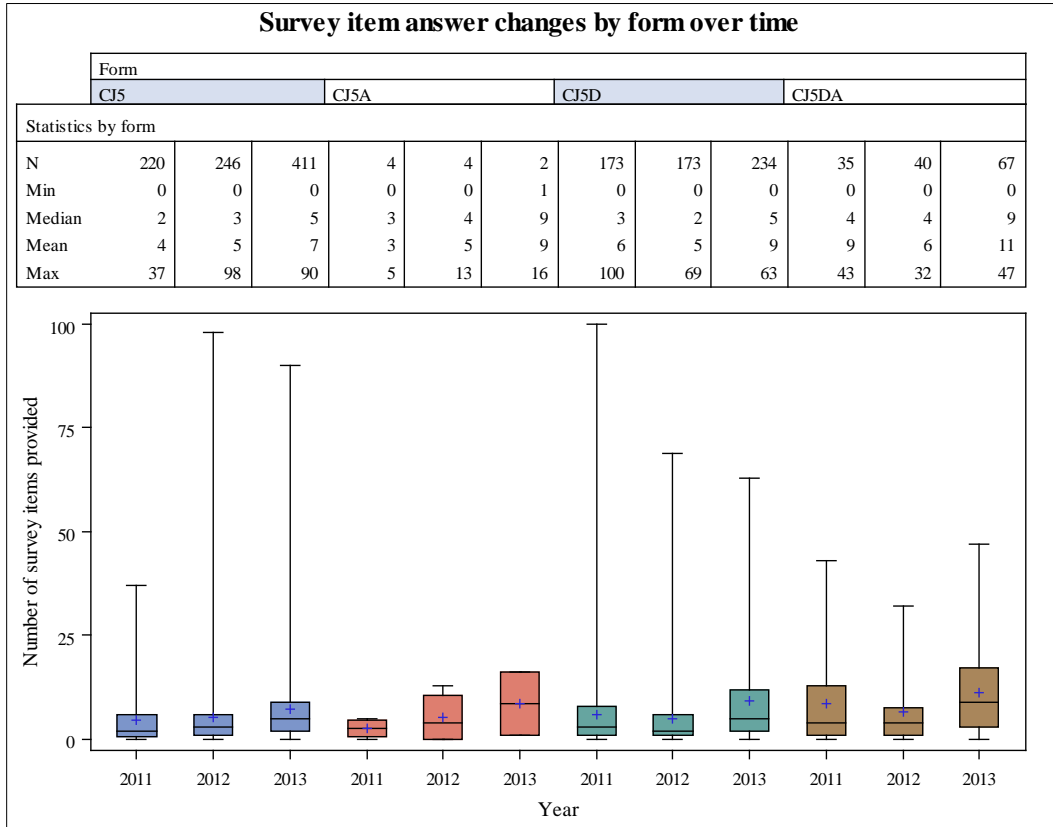
Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

Survey item answer changes by form type over time

Through Centurion, we can track how often a respondent changes their answer to a question. Respondents may realize that they mistyped an answer and change it of their own volition or they may change their answers based on edit messages that appear in Centurion. Figure 6 shows the descriptive statistics for answer changes.

The median number of total changes to answers ranges from two to nine, while the average ranges from three to 11. Figure 4 showed the number of survey items answered by form type by year. Recall that there are 68 questions on the short form, and 99 questions on the long form. The maximum number of answer changes by form type by year sometimes exceeds the number of questions, suggesting that some respondents are struggling with the survey questions.

Figure 6. Survey item answer changes by form type by year



Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

The most difficult question on the survey

We looked at the frequency of edit messages over time. Based on those frequencies, the most difficult question on the survey asks the respondent to split the number of convicted inmates into two categories and the number of unconvicted inmates into three categories. The number of convicted plus the number of unconvicted should add up to the total number confined, reported in the first question on the survey. Figure 7 shows this question. The left side of the figure shows how it appears on the paper questionnaire, while the right side of the figure shows how it appears in Centurion.

Note that the layout in Centurion closely follows the layout of the paper questionnaire. The five detail items, the two subtotals, and the grand total are all in one column. The subtotal boxes appear first, then we ask for the details that should add up to that subtotal.

Table 2 shows the edit messages for this question, along with the maximum number of times any respondent saw them. Table 3 shows the number of respondents that saw at least one of these edit messages. Table 4 shows the quality of the data submitted online for this question, measured by whether or not the data add up. This question has been on the survey for years, yet respondents consistently have trouble entering data that add up correctly. Jails submitting data that do not add up are called back to try to correct the data.

Figure 7. The most difficult question on the survey

FORM CS-50A (6-4-2013)

II.3. Of all persons CONFINED in your jail facility on June 28, 2013, how many were —

- For persons with more than one status, report the status with the most serious offense.
- For convicted inmates include probation and parole violators with no new sentence.

a. Convicted Actual Value ▾

How many were —

1. Unsented inmates or awaiting sentencing Actual Value ▾

2. Sentenced inmates Actual Value ▾

b. Unconvicted Actual Value ▾

How many were —

1. Awaiting trial/arraignment Actual Value ▾

2. Awaiting transfer/hold for other authorities Actual Value ▾

3. Other Actual Value ▾

c. TOTAL (Sum of items II.3a and II.3b should equal item I.1a)

Section II — INMATE COUNTS AND MOVEMENTS OF THE CONFINED POPULATION

II.3. Of all persons CONFINED in your jail facility on June 29, 2012, how many were —

- For persons with more than one status, report the status with the most serious offense.
- For convicted inmates include probation and parole violators with no new sentence.

a. Convicted Actual Value ▾

How many were —

1. Unsented inmates or awaiting sentencing Actual Value ▾

2. Sentenced inmates Actual Value ▾

b. Unconvicted Actual Value ▾

How many were —

1. Awaiting trial/arraignment Actual Value ▾

2. Awaiting transfer/hold for other authorities Actual Value ▾

3. Other Actual Value ▾

c. TOTAL (sum of items II.3a and II.3b should equal item I.1a) Actual Value

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Table 2. Maximum number of times respondent saw the edit messages for the most difficult question on the survey

Edit message	Year		
	2011	2012	2013
II.3a + II.3b does not equal II.3c.	3	5	6
II.3a details do not equal total.	14	15	21
II.3b details do not equal total.	5	8	15

Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

Table 3. Jails seeing at least one edit message for the most difficult question on the survey

Statistic	Year		
	2011	2012	2013
Jails seeing at least one edit message for the most difficult question on the survey	211 (49%)	213 (46%)	366 (51%)

Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

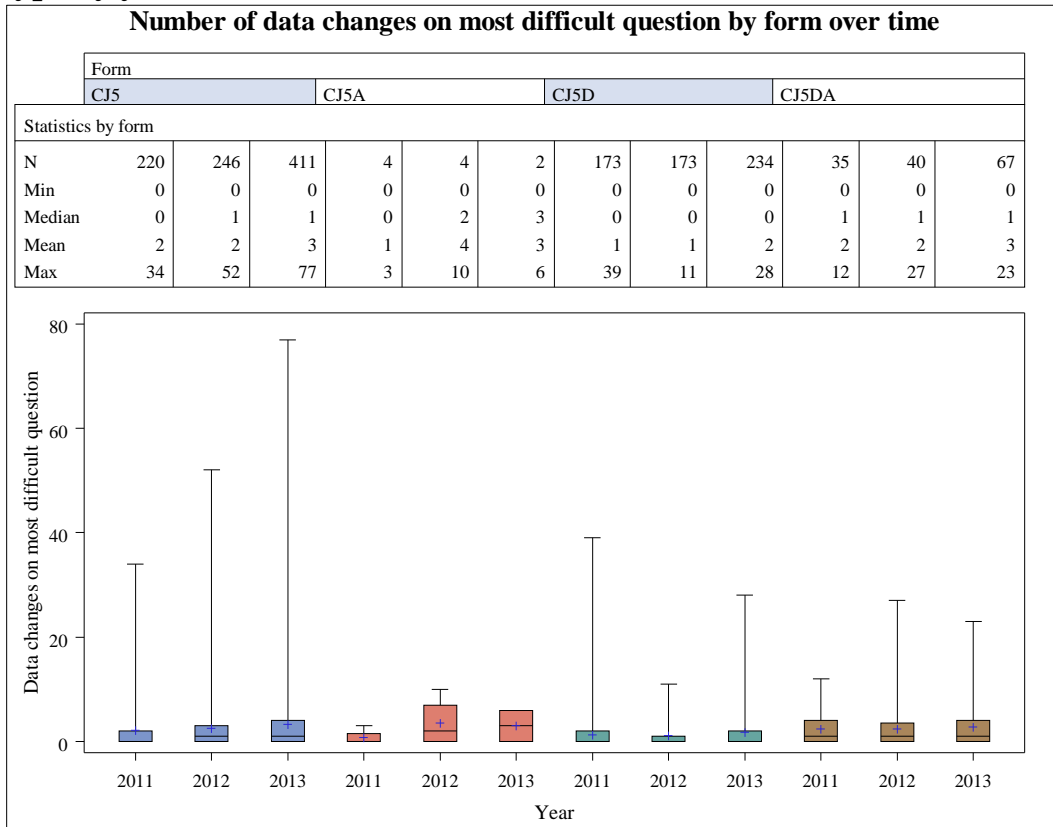
Table 4. Quality of data submitted online for the most difficult question on this survey

Result	Year		
	2011	2012	2013
Jails submitting data that adds up	284 (66%)	316 (68%)	456 (64%)
Jails submitting data that does not add up	117	114	201
Jails skipping this question	31	33	57
Total	432	463	714

Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

Figure 8 shows the number of data changes on the most difficult question by form type by year. There are seven counts in this question, yet some respondents are changing their answers repeatedly, suggesting difficulty answering the question.

Figure 8. Number of data changes on most difficult question by form type by year



Source: U.S. Census Bureau, 2011-13 Annual Survey of Jails paradata

Table 2 shows the exact wording of the edit messages for the most difficult question on the survey. While this question is difficult for respondents, the current edit message may not help respondents resolve the problem.

The edit messages for the questions about other subgroups that should add up to total confined or total unconfined have similar wording. Figure 9 shows the edit messages for a test case in Centurion.

Figure 9. Edit messages for the most difficult question on the survey

Section II — INMATE COUNTS AND MOVEMENTS OF THE CONFINED POPULATION

II.3. Of all persons CONFINED in your jail facility on June 29, 2012, how many were —

- For persons with more than one status, report the status with the most serious offense.
- For convicted inmates include probation and parole violators with no new sentence.

a. Convicted 4 Actual Value ▾

How many were —

1. Unsented inmates or awaiting sentencing 1 Actual Value ▾

2. Sentenced inmates 3 Actual Value ▾

b. Unconvicted ⓘ II.3b details do not equal total.

5 Actual Value ▾

How many were —

1. Awaiting trial/arraignment 3 Actual Value ▾

2. Awaiting transfer/hold for other authorities 2 Actual Value ▾

3. Other 1 Actual Value ▾

c. TOTAL *(sum of items II.3a and II.3b should equal item I.1a)* ⓘ II.3a + II.3b does not equal II.3c.

8 Actual Value

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Making the most difficult question easier

Centurion is already doing the math in the background. Showing the results to the respondents might help them more easily resolve the problems. Moving the subtotals beneath the subgroups may help, as well as moving the subtotals to another column, to indicate visually that there are two subgroups that add up to convicted, and three that add up to unconvicted. We can tell in the paradata that some respondents are trying to double-count inmates, apparently not realizing that the five subgroups are mutually distinct. We see the same problems when respondents use the paper forms. Figure 10 shows the suggested improvements for the most difficult question on the survey.

Figure 10. Mockup showing suggested improvements for the most difficult question on the survey

Section II — INMATE COUNTS AND MOVEMENTS OF THE CONFINED POPULATION

II.3. Of all persons CONFINED in your jail facility on June 29, 2012, how many were —

- For persons with more than one status, report the status with the most serious offense.
- For convicted inmates include probation and parole violators with no new sentence.

Convicted You entered:

How many were —

1. Unsentenced inmates or awaiting sentencing	<input type="text" value="500"/>	Actual Value ▾	500
2. Sentenced inmates	<input type="text" value="100"/>	Actual Value ▾	100
a. Convicted		<input type="text" value="600"/>	600

Unconvicted

How many were —

1. Awaiting trial/arraignment	<input type="text" value="100"/>	Actual Value ▾	100
2. Awaiting transfer/hold for other authorities	<input type="text" value="25"/>	Actual Value ▾	25
3. Other	<input type="text" value="75"/>	Actual Value ▾	75
b. Unconvicted		<input type="text" value="200"/>	200

c. TOTAL (sum of convicted and unconvicted should equal total confined) 900 Actual Value 800

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Save and Next

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Respondent comments as a measure of survey engagement

When submitting online, respondents have an opportunity to provide comments on each section of the questionnaire. Section I questions enumerate the supervised population. Section II details the inmate counts, as well as the movements (admissions and releases) of the confined population. Section III details the population supervised in the community. Finally, Section IV asks questions about staff safety and security.

This analysis notes an upward trend in the number of substantive comments over time. Between the 2011 and 2012 collection cycle, the number of jails making substantive comments increased 160 percent from 47 jails to 122 jails. This number rose another 57 percent during the 2013 data collection cycle to 191 jails. Of these facilities, twelve provided substantive comments for all three consecutive years.

Substantive comments included explanations for why capacity increased or decreased over time, why data could not be provided for some questions, and the difficulty some respondents had providing data. More specifically, respondents' comments included, but were not exclusive to, such things as:

Inmate counts and movements of the confined population took almost 2 hours to complete.

Unfortunately, our current Jail Records Management System is limited in what information we can retrieve. Info such as specific charges such as convicted, unconvicted, holds are not readily available.

Our Inmate Management System tracks Sentenced (convicted) and Non-Sentenced (unconvicted). I am unable to separate them further as question II.3 requires. Also, the system only tracks White, Black, Hispanic and Other. Race is not broken down further.

Our discharge/releases data are paper files and info is not readily available.

Information on assault is collected by incident rather than person and institutional violations data is maintained by region rather than by facility.

Section IV. Our program does not break down incidents into the requested categories. Thousands of reports would require individual reading to extract your requested statistics. We do list assaults as reported.

Re II.9 & II.10--New admissions to my facility does not usually equate to new admissions to the prison system. A handful might, but it is not good time usage to scrub records to determine this for survey purposes. The same can be said for the very few who are discharged after less than 180 days.

For Section II.5 we are providing the answers that we can from our IT system. To answer this in more detail would require researching individual inmates' files.

Our booking software does not provide the ability to sort out those booked in as weekenders as different from other bookings on any given date.

These and other comments are archived and visible to the Census Bureau and Bureau of Justice Statistics analysts to reduce further follow-up, reduce burden, and gain a better understanding of the efforts and systems the respondents deal with when trying to gather these data.

Unintended mobile respondents

The Centurion system captures the user agent string for each respondent. Websites such as <http://www.useragentstring.com/> can decipher the user agent string. All of the ASJ online respondents in 2011 and 2012 used Windows PCs. One respondent used a Mac in 2013, one used Linux, and one *briefly* tried using an iPhone.

The respondent who tried using Centurion on an iPhone started the survey on a Windows PC, then logged out and logged back in on the iPhone. That respondent was in Centurion on the iPhone for just under a minute, then logged out and returned later on a Windows PC. While unintended mobile respondents are not a problem for ASJ now, they may be in the future. Telling respondents that the site is not optimized for mobile may not stop them from trying to use mobile devices to respond to the survey.

Discussion

The jails in the sample for the ASJ data collection have been in sample for eight collection cycles. Most of the questions have not changed substantially over the last eight

years. While some respondents choose to either skip questions or ignore the edit messages when reporting online, some are spending much longer in Centurion than we expected, making many more data changes than anticipated, and seeing many more edit messages than anticipated. Edit messages that provide more information to the respondent may help the respondent resolve the problems. Fewer problems with data submitted online may decrease the number of follow-up calls from analysts, and potentially could shorten the data collection period.

We suggest the following improvements:

- Centurion is doing the math in the background. Reconfigure the screens so that the respondent can see how their subtotals and totals add up. Showing the respondent how their data add up may allow the respondent to realize quickly that they have either undercounted or overcounted on a given question.
- The Centurion system should alert the analysts when the respondent has been in the system a long time. Respondents who have been in Centurion for 3 hours or more without submitting data are probably struggling. The analysts can call those respondents to answer questions or provide further guidance.
- The Centurion system should alert analysts when the respondent has seen many edit messages. Analysts can call respondents who have seen 25 or more edit messages. The analysts can answer questions or provide further guidance.

While going paperless for the 2013 collection was effective at getting respondents to log into Centurion, we note that 19 percent of the jails in sample for 2013 logged into Centurion but did not answer any survey questions. More research is needed to figure out why some are reluctant to report online.

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