Interviewer and Respondent Behaviors Related to Sexual Orientation, Gender Identity, and Disability Questions:

Behavior Coding of the Farm Producer Study

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EXECUTIVE SUMMARY

The 2021 Farm Producer Study (FPS) was conducted to test the feasibility of adding questions about disabilities, sexual orientation (SO), and gender identity (GI) to the Census of Agriculture. The survey was conducted in all states from December 2021 – February 2022. Data from this survey were not published but were summarized and analyzed to assess the data quality of these questions, respondent reactions to the questions, and impact of the questions on response rates. As part of the analysis, researchers listened to selected telephone interviews and conducted behavior coding on the personal characteristics and demographic questions on the FPS. Behaviors of both the interviewer (enumerator) and interviewee (respondent) were coded.

Behavior coding is a method for evaluating the interaction between the survey interviewer and the respondent to identify issues with question wording and question administration in a production setting. We used the behavior coding method on a sample of recorded interviewer-administered telephone interviews from the FPS. First, we coded forty-nine computer assisted telephone interviews (CATI) conducted with producers across all regions. Then, interviewer behavior for selected questions was analyzed to determine the frequency that survey questions and response options were *read as worded*, *modified*, or *shortcutted*. *Shortcutting* included instances where interviewers entered a response without asking or verifying a question, the interviewer asked a question and entered a response that the respondent did not give, and on very rare occasions, the respondent provided a valid answer choice and the interviewer coded something else. Next, we analyzed respondent behavior to determine the frequency of which respondents provided *codable answers, answered in an incorrect format, provided qualified answers, corrected verifications, did not respond to verifications, asked for clarification, refused to answer*, and *answered "don't know"*. Finally, we compared these behaviors across question types. Please see "Section 2. Methods" for more details on the behavior coding methodology and coding scheme.

*Major modification (*not reading include and exclude instructions, changing the order of the words, not reading words in parentheses, and paraphrasing a question)*, not reading the question or confirming information given by the respondent, incorrectly skipping the question*, and *shortcutting* were considered problematic behaviors in our review of interviewer behaviors. When these codes are applied to a question at least 15% of the time, it is an indication that there is a problem with the survey question (Fowler, 2011). The percentage of interviews with these codes assigned ranges dramatically from question to question, with *major modifications* ranging from 4.0% (for 'difficulty seeing') to 83.7% (for the 'number of people involved in decisions'), *shortcutting* ranging from 0.0% (for many questions) to almost 24.0% (for the 'sex' question), and *incorrectly skipping the question* ranging from 0.0% for most questions to 38.8% (for the 'instructional statement'). All questions coded, except for age, ethnicity, and race, had percentages higher than 15.0% for the problematic codes. This indicates that these questions may not be easy to administer over the phone.

Of particular concern are questions that had a high rate of records coded as *shortcutted*. In these cases, the question was not read or verified by the interviewer or the answer the respondent gave was not entered or was changed by the interviewer. The questions with higher than 15% coded as *shortcutted* were 'sex,' 'sexual orientation,' and 'day-to-day decisions'. The 'day-to-day decisions' question can be

explained by the fact that the question appeared to restate the instructional statement at the beginning of the section where respondents confirmed they were involved in decisions for the operation. However, for the 'sex' question, interviewers may have made assumptions about the respondent based on their name or voice, or for the 'sexual orientation' question based on a response to the 'gender identity' question, which was the proceeding question. In these cases, the interviewer could have input data that was contrary to what the respondent would have reported, if they were asked the question. In addition to those three questions, the 'race,' 'gender identity,' and 'land use decisions' were *shortcutted* more than 10% of the time. The 'land use decisions' question was likely *shortcutted* when the respondent was the only person making decisions for an operation, thereby automatically making them the person who makes land use decisions. Coders noticed that respondents often told the interviewer their race when they were asked the preceding question on ethnicity. Similar to the 'sex' question, interviewers may have made assumptions about the respondent's gender identity based their name or voice, and therefore not asking the question. For both the 'race' and 'sex' questions, interviewers could have input data that was inaccurate or contrary to what the respondent would have reported if they were asked the question.

Reading response options was also coded as an interview behavior. Reading response options for some questions is arguably more important than others. For example, the response options for the day-to-day, land use, and livestock decisions were "yes" or "no." Not reading the response options in those questions is likely not a problem. However, there were some instances where the response options were not easily inferred from the question and needed to be read to the respondent but were not. One example is the series of disability questions (e.g., "Do you have difficulty seeing, even if wearing glasses?"), which had response options of "no difficulty, some difficulty, a lot of difficulty, and cannot do at all." When these answer choices were omitted, respondents often interpreted them as "yes"/"no" questions. Misinterpretations such as these could lead to problematic results, depending how important that breakdown is. The response options for sexual orientation were coded as a *major modification* in 50% of the interviewers. Coders noticed that interviewers often made assumptions about the respondent and changed the order and wording of the response categories. For example, instead of reading "gay or lesbian" as the first option, as listed on the screen, interviewers read "straight, that is, not gay or lesbian" first, and often paused so that the respondent would answer.

Across all the questions, interviewers *did not read response options* in 79.5% of the response options administrations. Response options for the 'Sexual orientation,' 'gender identity,' and 'occupation status' questions were often read, although the order and wording tended to be *modified*. For this survey, the response options for these questions needed to be read to respondents so that they were given the full range of codable responses. For example, the occupation status question asks, "At which occupation did you spend the majority (50% or more) of your work time in 2021?" It's unlikely that the respondent would guess that the response options for this question are "farm" and "work other than farming or ranching." In these cases, we saw much higher rates of interviewers *reading the response options for these questions than for other questions*.

During the administration of a single question, there can be several exchanges between an interviewer and respondent before a final answer to the question is given. Ideally, for each question administration, there would be only one exchange between the interviewer and the respondent. When looking at respondent behavior during the first exchange, only 29.5% of the responses given were in a codable

format that matched the response options in the questionnaire. There is a large range in the percentage of codable answers across questions, in both the first exchange and the final answer. Additionally, the percentage of codable answers increased dramatically from the first exchange and the final answer for all questions (29.5% to 75.7%). This indicates that, generally, the questions as administered, were not answered in the first exchange in a way that allowed them to be immediately entered by interviewers. Instead, interviewers and respondents had to do additional work and ask/answer additional questions to complete the survey. Respondent codes for the disability questions and military service question illustrate this point clearly. Whereas the first exchange for each of these questions yielded a codable answer less than 13.0% of the time, interviewers were able to extract a codable answer from respondents in the final exchange at least 80% of the time.

When looking at respondent behavior during the first exchange, some questions had high rates (more than 10%) of respondents *interrupting the interviewer.* This includes all three of the sexual orientation and gender identity (SOGI) questions, two of the questions about making decisions on the operation, the military service question, and several of the disability questions. The potential explanations for this differ between the question type. For the SOGI questions, there was a relatively high rate of *additional commentary* from the interviewers, allowing for an opportunity for the respondent to *interrupt the interviewer* with questions or their own commentary. For the decision, military, and disability questions, though, all of these questions have statements or qualifiers written into the question itself that add length to the question, but may not add value to the respondent. For example, one of the disability questions was, "Do you have difficulty with self-care, for example, washing all over or dressing?" Respondents would often interrupt after the interviewer they read "for example," possibly because they did not feel they needed examples to answer the question.

Throughout this report, we used aggregate scores to compare four topic areas: SOGI questions, disability questions, conventional demographic questions (e.g., age, race, and sex) and farm producer characteristic questions (e.g., how many days the person works off the farm and when they started operating a farm). Aggregate scores are composite percentages calculated across all records for each topic area. The purpose of these aggregate scores is to compare overall findings across the four topic areas. Behavior code aggregate scores across the topic areas varied for several reasons, including the interviewer modifying some questions more than others, interviewers not reading response options for some questions, the respondent interrupting the interviewer, and the number of exchanges between the interviewer and the respondents. Highlighted findings for the SOGI and disability questions are included below. All highlighted findings are statistically significant at the alpha = 0.05 level.

Highlighted findings for SOGI questions:
- SOGI questions were *shortcutted* at 12.5% overall, which is significantly more than the conventional demographic questions (4.2%). SOGI questions had a *refusal* rate of 3.1% during the first exchange, which is significantly higher than the conventional demographic questions (0.4%).
- For interviewer behavior related to reading the question, interviewers were more likely to make *major modifications* to SOGI questions (31.3%) during administration than the conventional demographics questions (17.9%).
- Respondents were generally able to provide *codable answers* in the final exchange for SOGI questions more often than conventional demographic questions (69.8% compared to 81.7%).

- The SOGI questions had a significantly higher rate of questions administered *exactly as worded* as compared to the farm producer characteristics questions (43.8% compared to 28.6%), and a significantly lower rate of *minor changes* (10.4% compared to 20.1%).
- For interviewer behavior related to reading the response options, the response options *were read* in 83.8% of the administrations for SOGI questions, which was significantly higher than the 20.3% for the farm producer characteristics questions.
- Respondents tended to provide responses in an *incorrect format* to SOGI questions at a significantly lower rate than the conventional demographic questions during the first exchange (9.4% compared to 28.6%).

Highlighted findings for SOGI questions compared to disability questions:
- *Shortcutting* occurred significantly more often for the SOGI questions than the disability questions (12.5% compared to 2.0%).
- Interviewers *did not read and incorrectly skipped* the response options for the disability questions more than the SOGI questions (96.0% compared to 20.3%).
- Respondents were more likely to *refuse* the SOGI questions than the disability questions in the first exchange (3.1% compared to 0.0%).
- In the first exchange, respondents were more likely to provide a *codable answer* to the SOGI questions than the disability questions (37.5% compared to 6.7%).
- During the final exchange, respondents provided *codable responses* for the disability question at a significantly higher rate when compared to the SOGI questions (82.7% compared to 69.8%).

Highlighted finding for disability questions:
- The disability questions were coded as *major modifications* at significantly lower rates than the farm producer characteristic questions (14.7% compared to 39.6%), but the reverse is true with respect to *minor changes* (32.7% compared to 20.1%). Of note is how often "days worked off the farm" was coded as a *major modification* (76.5%). It was also coded as a minor change significantly lower than all other questions across the two categories.

Please see "Section 3 Results" and "Section 4 Recommendations" for the full findings and recommendations for this project. For more detailed information on the SOGI and disability question findings specifically, please see "Section 3.3 Question-by-question results."

RECOMMENDATIONS

This list is a compilation of all recommendations from this project to be considered and tested, including those in the body of this report, as well as in Appendix H. Recommendations are broken out into six categories –CATI interviewing in general, disability questions, SOGI questions, introduction questions, conventional demographics questions, and producer characteristic questions.

Recommendations for NASS CATI interviewing in general (see Sections 3.1.1 and 3.1.2):

1. Work with Data Collection Center (DCC) coordinators and National Association of State Departments of Agriculture (NASDA) telephone supervisors to make questions easier to administer on the phone. This may include shortening questions, limiting the amount of include and exclude statements to read, and modifying the way questions are asked on CATI from what is asked on paper or web.

2. Similar to recommendation #1, wherever possible, simplify questions and response options so that respondents can answer questions more easily in the first exchange with an interviewer. If needed, clarifying information and interviewer instructions can be displayed on the screen in purple text.

3. In the beginning of the CATI script, or as a lead-in to personal characteristic questions, explicitly include a screen that tells respondents that the interviewer needs to read all questions. For example, "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions and response options."

4. When a question is intentionally different between the CATI instrument and the paper questionnaire, keep documentation in the Blaise instrument so that it doesn't inadvertently get changed again to match the paper instrument.

5. For any CATI implementation, review the full survey for questions and statements that may be interpreted as duplicated. In this case, 'number of people involved in decisions' and 'day-to-day decisions' were often interpreted as the same concept. Once identified, either remove one of the questions, or provide information in both interviewer training and the CATI script to give interviewers information about how the questions are different.

6. For any CATI implementation, read questions aloud before finalizing the script. Examples include the 'number of people involved in decisions' question which had confusing include and exclude statements, and the 'land use decisions' question which had "e.g., grazing" as part of the question, making it unclear how interviewers should read it aloud. In either instance, these problems may have been identified by having one or more people read the questions aloud and providing feedback.

7. To decrease the number of exchanges, lower the rate at which respondents *interrupt the interviewer*, and lower the rate at which interviewers make *major modifications* to questions,

remove instructions from the question text and include them as optional text on the interviewer screen or break up the instructions into separate questions.

8. If survey sponsors want response options read to respondents on CATI, make it clear in training, manuals, and most importantly, CATI screens, whether interviewers should read answer categories. Include Data Collection Center (DCC) coordinators and/or National Association of State Departments of Agriculture (NASDA) interviewers in discussions on how to do this, but some initial thoughts for CATI screens are to shorten questions, limit the number of answer categories, incorporate the answer categories into the question in black text, include an enumerator instruction to "read all answer categories," and break down complicated questions into separate screens.

Recommendations for disability questions (see Section 3.3.1.7):

9. Before asking disability questions, add a transition statement such as "The next questions ask about difficulties you may have doing certain activities" as recommended by the Washington Group on Disability Statistics. As indicated by the number of exchanges for the first disability question ('difficulty seeing'), respondents (and interviewers) were a bit confused with the transition to these questions.

10. After the first disability question is asked, include the wording "do you have any difficulty" in purple text as optional. Respondents seemed a bit annoyed at the repetitive nature of the questions starting with "do you have any difficulty," leading to much of the minor change coding for the questions and the relatively high percentage of times the respondent interrupted the interviewer.

11. To encourage reading the response options, at least on the first question in the series, consider implementing one of the following:
    *   Use the wording, "Would you say…" [Read response categories] at the end of the questions, as recommended by the Washington Group on Disability Statistics. Response options were not read for these questions most of the time. As evidenced by the large number of first exchanges coded as *incorrect format*, respondents often answered these questions with "yes" or "no" because response options were not read.
    *   Move the response options into the question area of the CATI screen in black text as part of the first question.
    *   Provide specific interviewer instructions in purple, for example "[ENUM] Read response options."

12. Re-word the 'difficulty with the self-care' question for CATI implementation, given that the "for example, washing all over and dressing" was not being read. For example, "Do you have difficulty with self-care? [ENUM] for example, washing all over and dressing."

13. Re-word the 'difficulty communicating' question for CATI implementation, given that the "for example, understanding or being understood" was not being read and the "usual (customary) language" component was confusing. This question may be better worded for CATI as "Using

your usual language, do you have difficulty communicating? [ENUM: For example, understanding or being understood"]. This matches The Washington Group's recommended wording as of October 2022 that has "(customary)" removed.

Recommendations for SOGI questions (see Section 3.3.2.5):

14. Emphasize the importance of asking SOGI questions, as worded, during interviewer training. Given the high amount of *shortcutting* and *did not read - verification* that occurred for the 'gender identity' and 'sex recorded at birth' questions,

15. Given the high amount of *additional commentary* and *transition statements* coded for the 'gender identity,' 'sex recorded at birth,' and 'sexual orientation' questions, a scripted transition statement should be tested (and added, pending the results of testing) prior to asking these questions. For example, "These next questions may seem obvious, but I am required to ask all questions in the survey so I don't make any assumptions about <you/the person> or <your/the> operation."

16. If SOGI questions are asked on future NASS surveys, the 'sexual orientation' question should be more thoroughly reviewed and tested, given the high amount of *shortcutting*, *did not read - verification*, the respondents' inability to provide a *codable answer*, and the number of *refusals*.

Recommendations for introduction questions (see Appendix H):

17. Instructional statements, such as the one used in this survey (shown in Appendix H), should be thoughtfully worded, and only be read by the interviewer if they make sense in the context of the overall interview. If they are used, they need to be fully explained to both the respondent and interviewer.

18. If an instructional statement like the one used in this survey is kept, it should address the particular types of questions that will be asked to better inform respondents of types of questions they will answer, an example could be similar to the transition statement in Recommendation #3: "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions."

19. For the 'number of people involved in decisions' question, remove the include and exclude statements from the required text. In the CATI instrument, this would be done by changing the font to purple text.
    - If the survey sponsor insists on the include and exclude statements being read, there are several ways this question could be revised to reduce confusion and respondent and interviewer burden:
        - Option 1 - Incorporate the include and exclude statement information earlier into the question stem, to come before the question is asked.
        - Option 2 - Provide specific interviewer instructions in purple, for example "[ENUM] Read include and exclude statements."

Recommendations for the conventional demographic questions (see Appendix H):

20. For the 'sex' question, if survey sponsors want interviewers to ask this question instead of making assumptions about a person's sex, we suggest emphasizing the importance of asking all questions in the instrument in interviewer training.

21. Given the high amount of *shortcutting* for the 'sex' question, a scripted transition statement could be added prior to asking demographic questions, which could explicitly tell the respondent that all questions will be asked. For example, the transition statement from Recommendation #3 (and #18): "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions."

22. Test a combined race' and 'ethnicity' question. This is currently being considered and tested at the federal government level, facilitated by the Interagency Technical Working Group on Race and Ethnicity (Statistical Policy Directive 15).

23. If the 'race' and 'ethnicity' questions are kept separate, consider adding the response options into the 'ethnicity' question, for example "Are you of Hispanic, Latino, or Spanish origin, yes or no?"

24. For the 'race' question, make is clear to interviewers and respondents that they should select all races that apply. This could be done by putting that instruction in black text in the CATI script and incorporating it into the question.

25. For the 'race' question, emphasize to interviewers that they should read all of the answer categories. This can be done by incorporating the categories into the question, such as "I am going to read you five race categories. I will then ask you which of those categories apply to you. The categories are White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Pacific Islander. Given those categories, what is your race? You may select more than one."

26. Re-word and/or re-format the 'military service' question by doing one of the following:
    - Divide the question into multiple questions: "Have you ever served in the U.S miliary?" If yes, then ask "Which of the following best describes your military service? Only on active duty for training in the Reserves or National Guard, now on active duty, or on active duty in the past, but not now?"
    - Incorporate the response options into the question.
        o Example 1: "Have you ever served on active duty in the U.S. military? Please answer one of the following: never served in the military, only on active duty for training in the U.S Armed Forces, Reserves, or National Guard, now on active duty, or on active duty in the past, but not now?
        o Example 2: the question could be asked as "Which of the following best describes your miliary service? Never served in the military, only on active duty for training in the U.S

Armed Forces, Reserves, or National Guard, now on active duty, or on active duty in the past, but not now?"

Recommendations for the producer characteristic questions (see Appendix H):

27. Re-word (remove "majority" and "50% or more") and incorporate the response options into the 'occupation (farm or non-farm)' question to make this question easier to administer. For example, it could be re-worded to "In 2021, did you spend more of your work time farming or doing work other than farming?"

28. The 'days worked off farm' question may need to be re-worded for CATI implementation, depending on the needs of the survey sponsor. Suggested changes are:
    a. Ask a series of questions instead of one question.
        o "Did you work any days off the farm in 2021?"
        o If yes, "Did you work full time off the farm in 2021?"
        o If no, "How many days did you work off the farm in 2021? I have some categories to read to you."
    b. Make the include statements optional help text; in CATI, this is done by changing the color of the font to purple. Enumerators can utilize if necessary.
        o If the survey sponsor insists that the include statements should be read to respondents, move them up before any optional text in purple (e.g., Please select one) as a further indication that the include text should be read aloud. Alternately, interviewer instructions could be added, for example "[ENUM] Read include statements".

29. Based on the number of exchanges findings, revise the questions 'year began operating ANY farm' and 'year began operating THIS farm' for CATI administration (keep them the same on paper).
    a. Add an introductory statement such as "I will now ask you two separate questions about when you started operating a farm" before asking the questions.
    b. Change the order of the questions. Ask the 'year they started operating THIS operation' first and the 'year they begin operating ANY operation' second.

30. Include an introductory statement before the 'decision-making questions.' For example, "now I will ask you some questions about the types of decisions you make for this operation. Some of these may seem redundant with topics we've already covered, but I will read each one to allow you to answer or verify the information."

31. The 'number of people involved in decisions' and 'instructional statement' were often interpreted as the same concept. Either remove one of them or provide information in both interviewer training and the CATI script to give interviewers information about how the questions are different.

32. For an interview where the respondent is the only person involved in decisions for the operation (which is known from previous questions in this section), skip the 'day to day decisions,' 'land

use decisions,' and 'livestock decisions' questions, or include them as optional questions for interviewers to read (this can be done in the script by making the text purple).

33. Review all questions for readability. The phrase "e.g., grazing" is part of the 'land use decisions' question, but it is unclear how an interviewer is supposed to read that to a respondent. Recommend removing "e.g., grazing" from the CATI script or re-wording it in a way that can be more easily read aloud.

34. If previous questions in a survey show no livestock on the operation, skip the 'livestock decisions' question, or show it as optional text.

35. Consider changing the wording of the 'livestock decisions' question to "are you involved in livestock or animal decisions, including purchases, sales, breeding, and pasturing." Although not reflected in the behavior coding results, at least one interviewer seemed to be somewhat confused by the term "livestock," not knowing whether horses should be included in that term. This could be problematic for other types of animals that NASS considers livestock, but respondents may not, such as aquaculture, ostriches, rabbits, etc.

Table of Contents

Interviewer and Respondent Behaviors Related to Sexual Orientation, Gender Identity, and Disability Questions: Behavior Coding of the Farm Producer Study

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Abstract

Behavior coding was conducted for the 2021 Farm Producer Study (FPS) to assess the performance of personal characteristic questions about sexual orientation, gender identity, and disability questions in telephone data collection. These and other personal characteristic and demographic questions for forty-nine computer assisted telephone interviews conducted with farms across all regions of the United States were coded for interviewer behavior, respondent behavior at the first and final exchange, and the number of exchanges needed to obtain a codable answer to each question. The findings of this research provide insights into how different types of questions are administered by interviewers and answered by respondents.

Key Words: Behavior Coding, Interviewer-Respondent Interaction, Data Quality, Demographic Questions, Sexual Orientation, Gender Identity, Disability Questions

1. INTRODUCTION

The National Agricultural Statistics Service (NASS) conducted the 2021 Farm Producer Study (FPS) from December 2021 to February 2022, to test the feasibility of adding questions about disabilities, sexual orientation (SO), and gender identity (GI) to the Census of Agriculture. A sample of 75,000 farm and ranch operations were selected to receive one of six versions of the questionnaire. Respondents had the option to self-report on the web or paper, with nonresponse follow-up conducted using computer assisted telephone interviews (CATI) in February 2022. We used behavior coding to assess and evaluate the interaction between the survey interviewer and the respondent. Behavior coding can identify issues with question wording and question administration in a production setting. Behavior coding was conducted on the personal characteristics section of the FPS in order to compare the results for the SOGI and disability questions to other questions that are somewhat related. The personal characteristics section contained questions about: (1) sexual orientation and gender identity (SOGI), (2) disabilities, (3) other conventional demographic attributes, (4) producer characteristics.

1.1 The Farm Producer Study

NASS conducted the 2021 Farm Producer Study (FPS) to assess the potential effect of disability and SOGI questions on the Census of Agriculture's response rates and measurement error. The target population

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for the Farm Producer Study was all U.S. agricultural producers, while the sampling frame consisted of producers from most of the active farms on NASS's list of farms, with the exception of very few operations. The sampled population was previously confirmed operations on NASS's list frame. Initially, four treatment groups were identified: (1) control (no SOGI and disability questions); (2) only disability questions; (3) only SOGI questions; and (4) both disability and SOGI questions. Later, treatment groups 3 and 4 were each split into two groups to test the use of a confirmation question for respondents who reported that their sex at birth was different from their current gender identity.

The total sample size for the FPS was 75,262 operations. The sample size was approximately 12,500 for the control group (treatment 1) and for the treatment group receiving only the disability questions (treatment 2). The sample size for each treatment group with the SOGI questions (treatments 3 and 4) was about 25,000. These two treatment groups with SOGI questions were each split into two subgroups: CATI and web respondents in one subgroup were asked a confirmation question if their recorded sex at birth differs from their present gender; respondents in the other subgroup were not asked the confirmation question. With this design, we anticipated that approximately half of the web or CATI respondents in these treatment groups that responded differently to the two questions (sex recorded at birth and present gender identity) would receive the confirmation question. The total sample sizes for the disability and SOGI questions were, respectively, about 37,500 and 50,000 (see section 1.5 below for more information about the different treatment groups and questionnaire versions).

The data collection plan for the FPS consisted of the following:
  (1) Mailed a traditional paper questionnaire with a cover letter on about December 20, 2021. This mailing also encouraged reporting on the web.
  (2) For all non-respondents, mailed a second traditional paper questionnaire with a cover letter on about January 18, 2022. This mailing also encouraged reporting on the web.
  (3) Conducted nonresponse follow-up with interviewers via CATI through February 25, 2022.

Of the 75,262 sampled operations, responses were obtained from 34,059, giving a cooperation rate of 45.3% (Young and Rater, 2022). Of the responders, 2,184 reported that they were out-of-business (Young and Rater, 2022). For more information about unit and item nonresponse on the Farm Producer Study, please see Young and Rater, 2022.

1.2 Questions about disabilities

The six disability questions on the FPS were taken directly from The Washington Group on Disability Statistics' set of questions on functioning (Washington Group on Disability Statistics, 2022). The questions were developed, tested, and adopted by the Washington Group on Disability Statistics and reflect advances in the conceptualization of disability and use the World Health Organization's International Classification of Functioning, Disability, and Health as a conceptual framework. These questions were cognitively tested on the paper version of the FPS (Ridolfo et al, 2021). No changes were made to the paper version of the questions from this testing.

In October 2022, these questions were updated by the Washington Group. The updated recommended questions as of October 2022 are shown in Appendix A.

The questions were included on the CATI instrument but did not follow all the Washington Group's recommendations for telephone administration. For example, the Washington Group provides an introductory statement for the interviewer to read during a telephone interview that reads, "The next questions ask about difficulties you may have doing certain activities." This was not included in the FPS CATI screens for interviewers to read. While the recommended four response categories of "no difficulty," "some difficulty," "a lot of difficulty," and "cannot do at all" were used in the FPS, the question administration NASS used was slightly different from what the Washington Group recommends. The Washington Group recommends asking each disability question followed by the statement "Would you say…", followed by the response options. The statement "Would you say" was not included in the FPS CATI screens. For example, the vision question for telephone administration as recommended by the Washington Group is:

"Do you have difficulty seeing, even if wearing glasses? Would you say…" [Read response categories]
1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all

Comparatively, the vision question used in the FPS CATI instrument was:

"Do you have difficulty seeing, even if wearing glasses?"
1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all

The [Washington Group website](#) contains additional supporting documentation, including information for translation, cognitive testing, question specifications and interview administration guidance, and analytic guidelines, including SPSS, SAS and STATA syntaxes.

1.3 Questions about sexual orientation and gender identity

Three questions regarding sexual orientation and gender identity (SOGI) were used on the FPS. The FPS questions drew heavily from the Williams Institute at the University of California at Los Angeles School of Law ([Williams Institute, 2020](#)). The questions (as of March 2020) are shown in Appendix B. Other questions that were reviewed and considered were from the Department of Justice's Crime Victimization Survey, the Census Bureau's PULSE Survey, and National Center for Health Statistic's National Health Interview Survey.

Once the SOGI questions were drafted for the FPS, NASS conducted cognitive testing and made some modifications to the questions before the FPS was fielded (Ridolfo et al., 2021). One of the main

differences involved the ordering of the 'sex at birth' and 'gender identity' questions. Generally, the 'sex at birth' question is asked first in a two-part gender identity series; however, Ridolfo et al. found that respondents who identified as transgender said their current gender identity was more important and preferred that question to be asked first, prompting a swap in the order of the questions (Ridolfo et al., 2021) for the FPS. The questions were tested for the paper survey, then transferred to the CATI instrument, with no additional testing done for CATI administration.

1.4 Other personal characteristic questions

Additional conventional demographic questions on the FPS included age, ethnicity, race, sex, education, and military status. Other producer characteristic questions in the section asked about the people involved in decision-making for the farm, and about farm and ranch responsibilities. These questions were based on preexisting questions from the Census of Agriculture's personal characteristics section, shown in Appendix C. Please see Appendix D for the exact wording of the questions on the FPS for all versions. Screen shots from the CATI instrument for all questions that were coded are in Appendix E.

Throughout this report, the term "producer" is used when describing the people involved in decision making for farm and ranch operations.

1.5 Farm Producer Study questionnaires

There were six versions of the FPS questionnaire, each containing general crop and livestock questions, followed by a different number and type of personal characteristic questions. Appendix D contains a copy of each version of the paper questionnaire. Table 1 shows the questionnaire versions and the specific questions on each. Questions are listed in Table 1 in the order they appeared on the questionnaire. Subsequent sections of this report group the questions by type of question (e.g., SOGI, disability, conventional demographics, and producer characteristics). The list below describes the treatment groups, as well as the version of the questionnaire used for each group.

- Version 1: Control, no SOGI or Disability questions (sample: about 12,500)
- Version 2: Disability questions, no SOGI questions (sample: about 12,500)
- Version 3: SOGI questions, no Disability questions (sample: about 25,000)
- Version 4: Both SOGI and Disability questions (sample: about 25,000)
- Versions 5 and 6: Except for the confirmation question, Version 5 had the same questions as Version 3, and Version 6 had the same questions as Version 4 (sample: about 12,500 each). For Versions 5 and 6, a confirmation question was asked on CATI and CASI (not on paper) if the answer to, "How do you currently describe yourself? Male/Female/Transgender" and "Was your sex recorded as male or female at birth? Male/Female" were different. The confirmation question was, "Just to confirm, you were recorded as a <Male/Female> at birth and currently describe yourself as <Female/Male/Transgender>. Is that correct?"

Table 1: Personal Characteristic Questions by Version

Question	Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Number of people involved in decisions	X	X	X	X	X	X
Instructional Statement	X	X	X	X	X	X
Age	X	X	X	X	X	X
Ethnicity	X	X	X	X	X	X
Race	X	X	X	X	X	X
Sex	X	X				
Gender Identity			X	X	X	X
Sex recorded at birth			X	X	X	X
Confirmation question, if applicable [1]					X	X
Sexual Orientation			X	X	X	X
Occupation status (farm or non-farm)	X	X				
Days worked off the farm	X	X				
Year began ANY farm	X		X		X	
Year began THIS farm	X		X		X	
Day-to-day decisions	X		X		X	
Land use decisions	X		X		X	
Livestock decisions	X		X		X	
Military service	X	X	X	X	X	X
Education	X	X	X	X	X	X
Difficulty seeing		X		X		X
Difficulty hearing		X		X		X
Difficulty walking		X		X		X
Difficulty remembering		X		X		X
Difficulty with self-care		X		X		X
Difficulty communicating		X		X		X

1/ The confirmation question was asked on the web and CATI only if the answer to "How do you currently describe yourself? Male/Female/Transgender" and "Was your sex recorded as male or female at birth? Male/Female" were different. The confirmation question was "Just to confirm, you were recorded as a <Male/Female> at birth and currently describe yourself as <Female/Male/Transgender>. Is that correct?"

1.6 Research questions

In order to broadly examine any potential issues with question wording and question administration in the CATI production setting, the following research questions were developed:

- Research Question 1: How did the interviewers deliver each question?
- Research Question 2: How did the respondents react to each question?
- Research Question 3: Did the interviewers deliver the SOGI questions differently than the disability questions?
- Research Question 4: Did the respondents react to the SOGI questions differently than the disability questions?

- Research Question 5: Did the interviewers deliver the SOGI questions differently than other demographic questions?
- Research Question 6: Did the interviewers deliver the disability questions differently than other demographic questions?
- Research Question 7: Did the respondents react to the SOGI questions differently than other demographic questions?
- Research Question 8: Did the respondents react to the disability questions differently than other demographic questions?

2. METHODS

Behavior coding is a method for evaluating the interaction between the survey interviewer and the respondent. It can identify issues with question wording and question administration in a production setting; however, it is it not well suited for providing information on why question wording is problematic or if responses provided are valid. Behavior coding was conducted on the personal characteristics section of the FPS. The personal characteristics section contained questions about: SOGI, disability, and questions about the people involved in decision-making for the farm, including conventional demographic questions, producer characteristics, and questions about producer responsibilities.

Prior to conducting any behavior coding, staff reviewed relevant literature on how to conduct behavior coding and received behavior coding training from other NASS staff who have conducted behavior coding projects. Additionally, staff reviewed video recordings of some general NASS telephone interviewer training and the FPS specific telephone interviewer training (found here). Interviewers were told in the FPS training that the survey was a test and that some of the questions were being used for the first time on a NASS survey. Staff also reviewed other materials that were provided to interviewers, such as the frequently asked questions documentation, shown in Appendix F.

For the FPS behavior coding project, fifty CATI interview recordings spanning all NASS regions were selected for coding. Due to limitations with NASS's CATI-monitoring/recording system, it was not feasible to select a statistically representative sample of recordings for a specific survey. Consequently, for this project, available recordings within the FPS data collection period were reviewed to determine if they were from the FPS (as opposed to other surveys NASS conducted during the same period); the first 30 interviews determined to be from the FPS were selected for behavior coding. Another 20 recordings were selected by first identifying interviews from specific geographic regions and conducted by each of the five NASS data collection centers (DCCs) used for the FPS telephone follow-up. CATI interviews recorded from these DCCs within the FPS data collection period were reviewed and recordings were selected to ensure each NASS region was represented. A total of 50 recordings were coded from CATI interviews conducted by 43 interviewers (the maximum number of interviews completed by any interviewer was two); however, one recording was determined to be a proxy interview (i.e., the respondent answered for another person), so it was removed from analysis, leaving 49 interviews total that were behavior coded.

Table 2 contains the number of recordings by version. Table 3 shows the number of recordings by the NASS region where the operations were located. Table 4 shows the number of recordings by DCC.

Table 2: Number of Recordings by Questionnaire Version

Version	Description	Coded Interview Count
1	Control, no SOGI or Disability questions	7
2	Disability questions, no SOGI questions	10
3	SOGI questions, no Disability questions	7
4	Both SOGI and Disability questions	7
5	SOGI questions, no Disability questions, confirmation question, if applicable	10
6	Both SOGI and Disability questions, confirmation question, if applicable	8
Total		**49**

Table 3: Number of Recordings by NASS Region

NASS Region	Coded Interview Count
Eastern Mountain	2
Northeastern	7
Southern	2
Upper Midwest	3
Great Lakes	5
Heartland	3
Northwest	1
Pacific	2
Delta	3
Northern Plains	4
Southern Plains	13
Mountain	4
Total	**49**

Table 4: Number of Recordings by NASS Data Collection Center (DCC)

DCC	Coded Interview Count
Arkansas DCC	18
Wyoming DCC	6
Montana DCC	8
Missouri DCC	15
Oklahoma DCC	2
Total	**49**

Although the coded interviews were not selected randomly, they closely resemble the FPS respondents across many conventional demographics. For example, approximately 80% of the FPS respondents and the behavior coding respondents reported on the survey being male and about 20% in both groups reported being female, with less than 1% reporting transgender or "none of these" in both groups. For

education, approximately 35% of the FPS respondents and the behavior coding respondents reported on the survey that they had a high school or less than high school education, and about 65% in both groups reported at least some college. For age, approximately one third of respondents in both groups reported on the survey that they were under age 60, and about two thirds in both groups reported their age as 60 or over. For race, approximately three quarters of the FPS respondents and the behavior coding respondents reported on the survey that their race was White, and about one quarter reported that they are people of color, including Black or African American, American Indian or Alaska Native, Asian, and Native Hawaii or Other Pacific Islander.

The behavior coding records also closely resemble the overall FPS respondents by the type of farm, as reported by whether most of the farm value of sales came from crops or livestock. About half of the respondents to the survey reported that most of their farm value of sales came from crops, and half said the majority was from livestock. This compares to about 40% and 60% for the behavior coding records. As far as the actual value of sales, the behavior coding records had a larger proportion of records with higher values of sales, as about 1/6 of the FPS respondents reported "none," about 1/2 reported $1 - $49,999, and about 1/3 reported greater than $50,000. This compares to 1/3, 1/2, and 1/6, respectively, for the FPS respondents.

Three researchers trained in behavior coding coded the FPS interviews. Before coding began, Cohen's kappa (Cohen, 1960) was calculated across all possible coder pairs to ensure consistency across coding. Nine interviews were selected for the initial kappa test. All three researchers coded the nine interviews independently and an initial kappa score was calculated. This initial kappa test indicated low agreement, so the coders reviewed all discrepancies and resolved disagreements. Modifications were made to the coding scheme and protocol and coders re-coded the nine interviews. The overall kappas were re-ran between coders for each category coded. For this round of coding, the kappas ranged from 0.7509 to 0.9547, with most being above 0.80, indicating there was substantial agreement among the three coders (Landis and Koch, 1977). After reaching these acceptable kappa scores, two coders coded each of the remaining 40 interviews. All discrepancies between coders were reviewed by the third coder to select a final code that was used for analysis.

Due to limitations with the recording software, coders only had access to the audio recording. They did not have access to the video recording showing the screens the interviewer was seeing and recording information into. Researchers did have access to the final data from the survey, but some limited editing was done for the survey that could have changed the data that the interviewer entered. While coders were able to lookup this information in some cases, in others they made assumptions about interviewer actions since they could not see CATI screens nor had access to unedited files.

In behavior coding, each turn in the interview can be coded. A turn begins when the first person begins speaking and ends when the second person begins speaking. A pair of turns is referred to as an exchange (Ongena and Dijkstra, 2006). During the administration of a single question, there can be several exchanges before a final answer to the question is given. Ideally, in each question administration, there would be only one exchange between the interviewer and the respondent. Previous research has found there to be diminishing returns to coding all exchanges for a single question (Oksenberg, Cannell, and Kalton, 1991). Therefore, for this study, only the first exchange and final

response (which may have occurred during the first exchange or subsequent exchanges) were coded for the FPS project. The protocol used for coding is in Appendix G.

For the purposes of this study, the behaviors for both the interviewer and respondent were coded. Although interviewer behavior was evaluated, it is important to remember the goal of the study was not to rate interviewer performance, but rather to identify patterns that provide insight into whether any systematic problems occur during data collection in the aggregate. The results highlight questions that may be difficult for interviewers to administer in a standardized way and problems with the data collection instrument itself, as well as interviewer performance. Accordingly, it is incumbent upon NASS researchers and survey designers to use the results from this report to ultimately make the job of the interviewer easier by fixing problematic question designs and CATI functionalities.

2.1 Interviewer Behaviors

In the general training video used in CATI interviewer training, interviewers were instructed that the standard for NASS CATI instrument screens is that interviewers should read black text. Purple text is considered optional text. Green text is used for data items that are fed into the instrument from other data sources or data items collected on a previous screen within the same interview. These guidelines are presented in general CATI training for phone interviewers. The training videos can be found at the hyperlink here, by selecting the last item, "Telephone Enumerator Demos", in the drop-down menu.

Response options are provided on the CATI screen for some questions, and not for others. For example, the question, "What was your age as of December 31, 2021?" had no response options as the respondent was expected to provide an age. The question, "Are you of Hispanic, Latino, or Spanish origin?" had response options of "yes" and "no". The question, "What is your race?" had response options of "White," "Black or African American," "American Indian or Alaska Native," "Asian," and "Native Hawaiian or Other Pacific Islander." The response options were presented in black text, but it was unclear from the training videos whether interviewers should read the response categories on the screen. In the slides presented during the training, they were told to read the categories, but in the mock interview conducted by the trainer, they did not read the categories aloud.

For interviewer behavior, only the first level exchange for each question was coded. Because it was unclear whether the interviewer was supposed to read the response options, for each question that had response options, two sets of interviewer behavior codes were coded. One set of codes reflects the interviewer behavior as it relates to reading the question itself. The second set of codes reflects the interviewer behavior as it relates to reading the response options for questions that had response options. For each set, a primary code was used, as well as several optional secondary codes. Only one primary code was coded for each question administration, but more than one secondary code could be applicable, for example, an interviewer could provide definitional text and insert a transition statement. Therefore, the percentages for secondary codes in the results tables may not add up to 100%.

Tables 5 – 8 show the behavior codes used, with a brief description of each code. Table 5 shows the primary codes that were used for coding the first level interviewer behavior related to reading the question. Table 6 shows the secondary codes that were used for coding the first level interviewer

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behavior related to reading the question. Table 7 shows the primary codes that were used for coding the first level interviewer behavior related to reading the response options. Table 8 shows the secondary codes that were used for coding the first level interviewer behavior related to reading the response options. Refer to the protocol in Appendix G for more detailed descriptions and examples for each code.

Table 5: Primary Codes Used for Coding Interviewer Behaviors Related to Reading the Question – First Level Exchange Only

Code	Code Meaning	Brief Description
EW	Exact wording	Interviewer read the question exactly as worded. Please note that if superfluous words, such as "now", "next", or "in", are added or omitted, the primary code was still coded as EW.
MC	Minor change	Interviewer makes slight wording changes that do not affect the meaning of the question or do not omit/change terms which represent the main concepts.
MM	Major modification	Interviewer changes the content of the question in ways that affect or could possibly affect the meaning of the question.
DRQV	Did not read the question - verification	Interviewer confirmed information without attempting to read the question. The interviewer verifies the response by either stating information the respondent previously provided *or* assuming a response based on previously provided information.
DRIS	Incorrectly skipped the question	Interviewer did not ask the question and did not attempt to enter a response when the question should have been asked.
SC	Shortcutting	Interviewer enters a response different from what was given by the respondent or enters a response without asking the survey question or verifying information.
OTHI	Other	This code was used for any dialogue on the part of the interviewer that does not fit into the codes described above.

Table 5 details the primary codes that were used for coding interview behaviors when reading questions. If a question was read exactly as written, *exact wording* (EW) was used. If a minor change was made that did not impact the meaning of the question, *minor change* (MC) was used. An example that was coded as a MC is:

> Original question wording:
> > In 2021, how many people were involved in decisions for this operation?
> > (Include family members and hired managers. Exclude hired workers unless they were a hired manager or family member.)
> MC Example:
> > Now, in 2021, how many people were involved in decisions for this operation?   Include family members, or retired, managers, just anything.

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If modifications were made to a question that could affect the meaning of the question or omitted key main concepts, *major modification* (MM) was used. An example that was coded as a MM is:

>>Original question wording:
>>>In 2021, how many people were involved in decisions for this operation?
>>>(Include family members and hired managers. Exclude hired workers unless they were a hired manager or family member.)
>>MM Example:
>>>Are you the only person that makes decisions for this operation?

If a question was not administered and it should have been, there were two codes that could have been used (e.g., DRQV or DRIS). If the interviewer used previously given information without attempting to read the question, the code *did not read the question, verification* (DRQV) was used. An example that was coded as a DRQV is:

>>Original question wording:
>>>What is your race? Select all that apply.
>>DRQV Example:
>>>I: and are you of any Hispanic, Latino, or Spanish origin?
>>>R: no no, Filipino
>>>I: ok, Filipino,
>>>I: ok I was about to ask you know Pacific Islander or Filipino, along those lines. Ok.
>>In this example, 'Race' was not asked, the interviewer used information given during the 'Origin' question to enter information for 'Race'.

If the interviewer did not ask a question and did not enter a response when the question should have been asked, the code *did not read, incorrectly skipped the question* (DRIS) was used.

If the interviewer entered a response that was different from what the respondent gave, entered a response without asking the survey question or verifying information previously given by the respondent, the code *shortcutting* (SC) was used. For example, if the interviewer assumes the respondent's sex is male and enters that without asking the question, it would be coded as SC. Another example of an exchange that was coded as SC is:

>>SC Example:
>>>I: are you of Hispanic, Latino, or Spanish origin?
>>>R: um, American
>>The response options for this question are 'yes/no'. The interviewer did not ask for clarification about the response and entered 'no' as a response. 'American' cannot be reasonably inferred to mean a 'no' response for this question.

Finally, the *other* (OTHI) code was used for any dialogue on the part of the interviewer that does not fit into the codes described above. Examples of things that were coded as OTHI include instances where multiple questions were combined or asked within the same question, or if the question order was changed by the interviewer.

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Table 6: Secondary Codes Used for Coding Interviewer Behaviors Related to Reading the Question – First Level Exchange Only

Code	Code Meaning	Brief Description
DT	Definitional text	The interviewer reads any instructional or definitional text.
RW	Repeated wording	The interviewer repeats any portion of the question, this can be prompted by the respondent or done without prompting.
TS	Transition statement	The interviewer provided or added substantive lead-in or transition statement prior to asking the next question. A transition statement should be substantive and beyond a single word that does not impact the meaning of the question, such as "now" and "next".
AC	Additional commentary provided	This can be either positive or negative commentary about a question, that has been provided in an exchange by the interviewer.

Table 6 details the secondary codes that were used for coding interview behaviors when reading the question. These are codes for additional or secondary changes that were made during the administration of a question, that could occur within a primary code. Capturing additional behaviors during question administration can help inform areas for improvement both with questionnaire design and question administration. For example, if a particular question is administered and often required definitional text, it can signify that the question should be redesigned to reflect the desired terminology more adequately. An exchange could have more than one applicable secondary code.

If an interviewer provided any instructional or definitional information, the secondary code *definitional text* (DT) was used. If an interviewer repeated portions of the question, the secondary code *repeated wording* (RW) was used. If the interviewer added substantive lead-in or transition statement prior to asking the next question, the secondary code *transition statement* (TS) was used. Transition statements had to be substantive and beyond a single word that does not impact the meaning of the question such as "now" or "next". Examples of statements that were coded as transition statements are:

> TS Example 1: Alright, now again, with some of these questions, if you feel uncomfortable answering 'em, that's ok. They're a little different. We haven't asked this before.
> TS Example 2: And, ah, (laughs), this is maybe, ah, something you may or may not want to answer. This is the first time this is on a survey.

If an interview provided either positive or negative commentary about a question, the secondary code *additional commentary* (AC) was used. For AC to have been selected, the commentary was in some way related to the survey. Examples of statements that were coded as additional commentary are:

> AC Example 1: And may I ask how old you were on December 31, 2021? *They want to get an idea how old people are who are involved, whether it's the cattle, sheep,*
> AC Example 2: Are you involved in making day to day decisions for this operation, *well, yeah, because you're the one that, some of the questions just baffle me because we already said that we were talking to the person who makes the decisions. So, I don't know.*

Table 7: Primary Codes Used for Coding Interviewer Behaviors Related to Reading the Response Options – First Level Exchange Only

Code	Code Meaning	Brief Description
EW	Exact wording	Interviewer read the response options exactly as worded.
MC	Minor change	Interviewer makes slight wording changes that do not affect the meaning of the response options or do not omit/change terms which represent the main concepts.
MM	Major modification	Interviewer changes the content of the response option(s) in ways that affect or could possibly affect the meaning of the main concepts.
DRIS	Incorrectly skipped the response options	Interviewer did not read the response options to the respondent, and they should have been read, as per the indications in the CATI screen instrument (e.g., the text was black in color, not purple or red).
OTHI	Other	This code was used for any dialogue on the part of the interviewer that does not fit into the codes described above.

Table 8: Secondary Codes Used for Coding Interviewer Behaviors Related to Reading the Response Options – First Level Exchange Only

Code	Code Meaning	Brief Description
DT	Definitional text	The interviewer reads any instructional or definitional text.
RW	Repeated wording	The interviewer repeats any portion of the response options, this can be prompted by the respondent or done without prompting.
TS	Transition statement	The interviewer provided or added any type of lead-in or transition statement to the response options.
AC	Additional commentary provided	This can be either positive or negative commentary about response options, that has been provided by the interviewer.
INTERRPT	Respondent interrupts interviewer	Respondent interrupts interviewer while he/she is reading the response options.

Tables 7 and 8 detail the primary and secondary codes that were used for coding interview behaviors when reading the response options. For these codes, we are looking to see if the interviewers read the question response options, as worded. This allowed for the analysis of question wording and question response options to be done separately, to not bias the interviewer delivery of the questions. The codes and descriptions for reading the response options are the same as the codes used for coding interview behaviors when reading the questions, with a few additions for secondary codes. For example, if the respondent interrupted the interviewer while the interviewer was reading the response options, the secondary code *respondent interrupts interviewer* (INTERRPT) was used.

2.2 Respondent Behaviors

For respondent behavior, the first level exchange was coded, as well as a final response. We did this to capture the distinction more accurately that could occur between the response, as given by a respondent, and the response options as written in the questions. We distinctly coded the respondent's initial response from a final, codable response, even in single level exchanges.

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Here is an example:

> I: What is the highest level of education you've achieved?
> R: Only 6th grade
> I: OK

The response given, "only 6th grade", does not match the response options from the question ('Less than high school diploma', 'high school', 'some college (include associates degree)', 'four-year college graduate or beyond'). However, the interviewer can reasonably convert the response "only 6th grade" to the existing category of "less than high school diploma". The goal of coding final responses, even in single level exchanges, is to capture any conversions of responses that interviewers may have to make, based on the information that is provided by respondents. Refer to the protocol in Appendix G for more detailed descriptions and examples of each code.

Table 9: Codes for Coding Final Response and First Level Exchange Respondent Behaviors

Code	Code Meaning	Brief Description
CA	Codable answer	The respondent provides a response that fits the existing response options, as worded in the question.
INC	Response is not in the intended format	Respondent provides an answer that is not in the correct format for the response option in the survey.
QA	Qualified answer	The respondent provides a modified response by placing conditions around the response or expresses uncertainty about the response provided and may be unsure about the accuracy of the information.
CLAR	Request for clarification	The respondent requests clarification of the question meaning or for all or part of the question to be re-read. This can include response options.
INTERRPT	Respondent interrupts interviewer	Respondent interrupts interviewer while he/she is reading the question.
VERNORES	Respondent does not respond to verification	Respondent does not respond to interviewer's verification.
VERCORR	Respondent corrects verification	Respondent corrects interviewer's verification.
VERA	Respondent agrees with verification	Respondent agrees with interviewer's verification.
DK	Respondent answered don't know	The respondent states that he/she does not have the information.
REF	Respondent refused to answer	The respondent refuses to provide a response.
SC	Shortcutting	No response given because interviewer failed to ask question or verify, or response has been changed from what was given by respondent
OTHR	Other	Use this code for any dialogue on the part of the respondent that does not fit into the codes described above or inadequate answers.
AC	Additional commentary provided	This can be either positive or negative commentary about a question, that has been provided in an exchange by the respondent.

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Table 9 shows the codes that were used with a brief description of each code. If the respondent provided an answer that fit existing response options for a question, as the response options were written, the code *codable answer* (CA) was used. If the respondent provided a response that was not in the correct format, the code *incorrect format* (INC) was used. An example of an answer that was coded as INC is:

> INC Example:
> I: Do you have any difficulty seeing, even if you're wearing glasses?
> R: Yes, ma'am.
> *(Response options are: 'no difficulty', 'some difficulty', 'a lot of difficulty', 'cannot do at all')*

If the respondent provides a modified answer by placing conditions around their response or expresses uncertainty about their response, the code *qualified answer* (QA) was used. An example of QA is:

> QA Example:
> I: Now, ah, which race would you identify with?
> R: *I guess white, because I'm Puerto Rican, but I'm really pale*.

If a respondent requests for clarification of the question or response options, or for a portion of the question or response options to be re-read, the code 'clarification' (CLAR) was used. An example of CLAR is:
> CLAR Example:
> I: Which race would you identify with?
> R: Me, what race, would be race, *what options do we have*?

If the respondent interrupts the interviewer while the question or response options is being read, the code *interrupt* (INTERRPT) was used.

There are several codes that were used to distinguish respondent behavior that could occur when the interviewer asks for verification of an answer or information previously given by the respondent. If the respondent did not respond to verification, the code *respondent does not respond to verification* (VERNORES) was used. If the respondent corrected information given by the interviewer in the verification, the code *respondent corrects verification* (VERCORR) was used. If the respondent agreed with the verification information given by the interviewer, the code *respondent agrees with verification* (VERA) was used.

If the respondent states that they do not have or do not know the answer, the code *don't know* (DK) was used. If the respondent refused to provide an answer, the code *refused* (REF) was used. If no information was given because the interviewer did not ask the question or verify information that was previously given in the interview, or the interviewer changed a response given from a respondent, the code *shortcutting* was used (SC).

Finally, we had an *other* (OTHR) code that was used for any dialogue on the part of the respondent that does not fit into the codes described above. Examples of things that were coded as OTHR included instances where recording quality was too low for the response to be heard, and inadequate responses

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that could not reasonably be coded into response options for a question. An example of a response that was coded as *other* (OTHR) is:

> OTHR Example:
> I: Which of the following best represents how you think of yourself? 'Gay or lesbian', 'straight, that is not gay or lesbian', 'bisexual', 'none of these', 'I'm not sure yet'
> R: I'm married

3. RESULTS

For the FPS, 760 question/introduction text administrations across the 49 interviews were coded (recall that one interview was coded, but since it was a proxy report, it is not included in the final analyses).

In general, *major modification, not reading the question or confirming information given by the respondent, incorrectly skipping the question*, and *shortcutting* are considered problematic. When these codes are applied to a question at least 15% of the time, it is an indication that there is a problem with the survey question (Fowler, 2011). It is worth noting that 15% may be low when we consider the frequency of contact between interviewers and respondents for NASS surveys. Because of this, interviewers are likely to converse with respondents to build rapport to help create a positive experience.

3.1 Results by Research Question

This section contains findings and recommendations for each of the research questions.

To aid answering certain research questions, aggregate scores across groups of similar topic questions were compiled (e.g., SOGI and disability). These aggregate score percentages were calculated in the same manner as the individual question percentages; however, the percentages were aggregate percentages, calculated across all the similar topic questions and records, resulting in a summation in the total number of interviews across each grouping.

Statistical tests of significance were computed on these aggregate scores for some research questions. These tests were computed using the "N-1" Chi-squared test as recommended by Campbell (Campbell, 2007) and Richardson (Richardson, 2011). Differences of question coding rates that were significant at the $\alpha = 0.01$ level were indicated with ^ in the tables with aggregate scores, while differences that were significant only at the $\alpha = 0.05$ level were indicated with *. No adjustments were taken to counteract possible multiple comparisons problems due to the large number of statistical comparisons done.

3.1.1 Research Question 1: How did the interviewers deliver each question?

As discussed earlier, for each question that had response options, two sets of interviewer behavior codes were coded: one for administering the question text and another for administering the response options. In addition, primary and secondary codes were used for coding the interviewer behavior.

Overall and question-specific codes are presented in separate tables. Overall results are shown first, followed by question specific results.

Tables 10, 11, 12, and 13 show the overall primary and secondary interview behavior related to reading question text and reading response options (for those questions that had response options on the CATI screen). Only one primary code was coded for each question administration, but multiple secondary codes could be coded. For tables showing secondary codes, the percentage may not add to 100% because more than one secondary code could be applicable to a record.

Table 14 and 15 show the question specific primary interview behavior related to reading question text and reading the response options (for those questions that had response options on the CATI screen. Question-specific secondary codes are not presented because the number of codes was too low to be informative. Where applicable, secondary codes are presented in the question-by-question findings later in this report.

A total of 760 question/instructional statements administrations across 49 interviews were coded. There were 516 response option administrations across the 49 interviews coded. The number of response option administrations coded is lower than question administrations due to some questions not having response options such as, "What was your age on December 31, 2021?" and questions where the response options were included within the question text such as, "Was your sex recoded as male or female at birth?"

Table 10: Overall Primary Interviewer Behavior Related to Question Text (n=760)

Primary Code(s)	Code Meaning	Percent
EW	Exact Wording	37.9
MC	Minor Change	21.8
MM	Major Modification	29.5
DRQV	Did Not Read - Verification	1.7
DRIS	Incorrectly Skipped the Question	2.8
SC	Shortcutted	5.0
OTHI	Other	1.3

Across all the 760 questions/instructional statements that were coded, almost 60% were administered with *exact wording* or *minor changes,* with 37.9% administered *exactly as worded* and 21.8% administered with *minor changes*. *Major modifications* were made in 29.5% of the administrations, 1.7% were *not read but the information was verified* from earlier in the interview, 2.8% were *incorrectly skipped*, and 5.0% of the questions were *shortcut*, with a response entered that was different from what was given from the respondent or entered without a question being asked or verified (See Table 10). *Major modifications* consisted of not reading include and exclude instructions, changing the order of the words, not reading words in parentheses, and paraphrasing a question. Appendix E shows the CATI screens for all questions that were coded.

Table 11: Overall Secondary Interviewer Behavior Related to Question Text (n=760)

Secondary Codes	Code Meaning	Percent [1/]
DT	Definitional Text	0.3
RW	Repeated Wording	4.0
TS	Transition Statement	3.4
INTERRPT	Respondent interrupts interviewer	6.8
AC	Additional Commentary Provided	8.3
None	No Secondary Codes present	78.6

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

In looking at the secondary interview behaviors during question administration, across the 760 questions that were coded, most (78.6%) of the administrations did not have any secondary behaviors that were observed. *Additional commentary* occurred in 8.3% of the administrations, the respondent *interrupted the interviewer* in 6.8% of the administrations, *repeated wording* occurred in 4.0% of the administrations, *transition statements* were added in 3.4% of administrations, and *definitional text* was provided in less than 0.3% of administrations (See Table 11).

Table 12: Overall Primary Interviewer Behavior Related to Response Options (n=516)

Primary Code(s)	Code Meaning	Percent
EW	Exact Wording	2.1
MC	Minor Change	10.1
MM	Major Modification	8.1
DRQV	Did Not Read - Verification	0.0
DRIS	Incorrectly Skipped the Response Options	79.5
SC	Shortcutted	0.2
OTHI	Other	0.0

Looking at how the interviewers administered the response options, across the 516 instances, 79.5% of the time the response options were *not read and incorrectly skipped*. Only 2.1% of the response options were administered with *exact wording*, 10.1% were administered with *minor changes*, and 8.1% had *major modifications*. All other codes occurred at less than 1.0% (See Table 12).

For the purposes of this project, coders assumed that response options should be read if they were written in black text, based on interviewer training. However, as seen in Table 12, interviewers frequently skipped reading the response options.

In looking at the secondary behaviors during response option administration, across the 516 response options that were coded, most (93.6%) administrations did not have any secondary behaviors that were observed. In 5.0% of the administrations, the respondent *interrupted the interviewer*. All other codes occurred at less than 1.0% (See Table 13).

Table 13: Overall Secondary Interviewer Behavior Related to Response Options (n=516)

Secondary Codes	Code Meaning	Percent [1]
DT	Definitional Text	0.0
RW	Repeated Wording	0.4
INTERRPT	Respondent interrupts interviewer	5.0
TS	Transition Statement	0.4
AC	Additional Commentary Provided	0.6
None	No Secondary Codes present	93.6

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 14 shows the interviewer behavior for reading each question. Table 15 shows the interviewer behavior for reading the response options for questions that had response options on the CATI screen. In these two tables, the questions are listed in the order that they appeared in the questionnaire.

Table 14: Primary Interviewer Behavior for Reading Question Text by Question

Question	No. of Interviews	Interviewer Behavior						
		EW	MC	MM	DRQV	SC	DRIS	OTHI
		(percent)						
Instructional Statement	49	6.1	8.2	46.9	0.0	0.0	38.8	0.0
Number of people involved in decisions	49	6.1	10.2	83.7	0.0	0.0	0.0	0.0
Age	49	46.9	40.8	12.2	0.0	0.0	0.0	0.0
Ethnicity	49	67.7	16.3	10.2	0.0	4.1	0.0	2.0
Race	49	46.9	16.3	8.2	14.3	10.2	2.0	2.0
Sex	25	35.3	5.9	35.3	0.0	23.5	0.0	0.0
Gender Identity	32	50.0	3.1	28.1	6.3	12.5	0.0	0.0
Sex recorded at birth	32	25.0	18.8	46.9	0.0	9.4	0.0	0.0
Sexual Orientation	32	56.3	9.4	18.8	0.0	15.6	0.0	0.0
Occupation status (farm or non-farm)	17	29.4	41.2	29.4	0.0	0.0	0.0	0.0
Days worked off the farm	17	17.7	5.9	76.5	0.0	0.0	0.0	0.0
Year began ANY farm	24	41.7	25.0	25.0	0.0	4.2	0.0	4.2
Year began THIS farm	24	25.0	16.7	41.7	4.2	8.3	0.0	4.2
Day-to-day decisions	24	29.2	20.8	25.0	4.2	16.7	4.2	0.0
Land use decisions	24	16.7	20.8	45.8	4.2	12.5	0.0	0.0
Livestock decisions	24	37.5	12.5	41.7	0.0	8.3	0.0	0.0
Military service	49	38.8	18.4	42.9	0.0	0.0	0.0	0.0
Education	49	46.9	42.9	10.2	0.0	0.0	0.0	0.0
Difficulty seeing	25	52.0	40.0	4.0	0.0	0.0	0.0	4.0
Difficulty hearing	25	56.0	28.0	12.0	0.0	0.0	0.0	4.0
Difficulty walking	25	76.0	12.0	8.0	0.0	0.0	0.0	4.0
Difficulty remembering	25	60.0	20.0	12.0	0.0	4.0	0.0	4.0
Difficulty with self-care	25	16.0	44.0	28.0	4.0	4.0	0.0	4.0
Difficulty communicating	25	16.0	52.0	24.0	0.0	4.0	0.0	4.0

Major modification, not reading the question or confirming information given by the respondent, incorrectly skipping the question, and *shortcutting* are considered problematic behaviors. When these codes are applied to a question at least 15% of the time, it is an indication that there is a problem with

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the survey question (Fowler, 2011). As seen in Table 14, the percentage of interviews with these codes assigned ranges dramatically from question to question, with *major modifications* ranging from 4.0% (for 'difficulty seeing') to 83.7% (for the 'number of people involved in decisions'), *shortcutting* ranging from 0.0% (for many questions) to almost 24.0% (for the 'sex' question), and *incorrectly skipping the question* ranging from 0.0% for most questions to 38.8% (for the 'instructional statement'). All questions in this section, except for age, ethnicity, and race had percentages higher than 15.0% for the four problematic codes. This indicates that these questions are not easy to administer over the phone (this study did not look at other modes of data collection). Additionally, the 'age,' 'ethnicity,' and 'race' questions are common survey questions that respondents were likely used to answering.

Of particular concern are questions that had a high rate of records coded as *shortcutted* (SC). *Shortcutting* occurred in 14 of the questions (see table 14). In these cases, the question was not read or verified by the interviewer or the answer the respondent gave was not input or was changed by the interviewer. The questions with higher than 15.0% coded as *shortcutted* were 'sex,' 'sexual orientation,' and 'day-to-day decisions'. The 'day-to-day decisions' question can be explained by the fact that the instructional statement at the beginning of the section instructed the respondent that these questions should be answered by someone who is involved in decisions for the operation, so this question appeared to be duplicative. However, for the 'sex' question, interviewers may have made assumptions about the respondent based their name or voice, or for the 'sexual orientation' question based on a response to the 'gender identity' question, which was the proceeding question. In these cases, the interviewer could have input data that was inaccurate or contrary to what the respondent would have reported, if they were asked the question.

In addition to those three questions, the 'race,' gender identity, and 'land use decisions' were *shortcutted* more than 10% of the time. The 'land use decisions' question was likely *shortcutted* when the respondent was the only person making decisions for an operation, thereby automatically making them the person who makes land use decisions. Coders noticed that respondents often told the interviewer their race when they were asked the preceding question on ethnicity. Similar to the 'sex' question, interviewers may have made assumptions about the respondent's gender identity based on their name or voice, and therefore not asking the question.

Table 15: Primary Interviewer Behavior for Reading Response Options by Question

Question	No. of Interviews	Interviewer Behavior[1]				
		EW	MC	MM	SC	DRIS
		(percent)				
Ethnicity	49	4.1	0.0	0.0	0.0	95.9
Race	49	2.0	4.1	8.2	0.0	85.7
Sex	17	23.5	5.9	5.9	0.0	64.7
Gender Identity	32	3.1	46.9	25.0	3.1	21.9
Sexual Orientation	32	0.0	31.3	50.0	0.0	18.8
Occupation status (farm or non-farm)	17	11.7	58.8	29.4	0.0	0.0
Day-to-day decisions	24	0.0	0.0	0.0	0.0	100
Land use decisions	24	0.0	0.0	0.0	0.0	100
Livestock decisions	24	0.0	0.0	0.0	0.0	100
Military service	49	0.0	0.0	2.0	0.0	98.0
Education	49	2.0	22.5	8.2	0.0	67.4
Difficulty seeing	25	0.0	8.0	8.0	0.0	84.0
Difficulty hearing	25	0.0	4.0	0.0	0.0	96.0
Difficulty walking	25	0.0	0.0	4.0	0.0	96.0
Difficulty remembering	25	0.0	0.0	0.0	0.0	100
Difficulty with self-care	25	0.0	0.0	0.0	0.0	100
Difficulty communicating	25	0.0	0.0	0.0	0.0	100

1/ DRQV and OTHI columns were removed because they were never coded for the primary interview behavior for reading response options.

Reading response options for some questions is arguably more important than others. For example, the response options for the 'day-to-day,' 'land use, and 'livestock' decisions were "yes" or "no." Not reading the response options in those questions is likely not a problem. However, without reading the response options of "no difficulty, some difficulty, a lot of difficulty, and cannot do at all" for the disability questions often changed them into yes/no questions. That could lead to quite different results, depending how important that breakdown is.

The response options for the 'sexual orientation' question were coded as a *major modification* in 50% of the interviewers. Interviewers often made assumptions about the respondent and changed the order and wording of the response categories. For example, instead of reading "gay or lesbian" as the first option, as listed on the screen, interviewers read "straight, that is, not gay or lesbian" first, and often paused so that the respondent would answer. Yet, it is also worth noting that interviewers rarely read response options. 'Sexual orientation,' 'gender identity,' and 'occupation status' are exceptions in this regard, although they tended to be modified to some degree by the interviewer. This is likely because these questions cannot be accurately answered without reading the response options. For example, the occupation status question asks, "At which occupation did you spend the majority (50% or more) of your work time in 2021?" It's unlikely respondents would guess that the response options for this question are "farm" and "work other than farming or ranching." In these cases, we see higher rates of interviewers reading response options.

Recommendations related to research question 1:

1. Work with Data Collection Center (DCC) coordinators and National Association of State Departments of Agriculture (NASDA) telephone supervisors to make questions easier to administer on the phone. This may include shortening questions, limiting the amount of include and exclude statements to read, and modifying the way questions are asked on CATI from what is asked on paper or web.

2. In the beginning of the CATI script, or as a lead-in to personal characteristic questions, explicitly include a screen that tells respondents that the interviewer needs to read all questions. For example, "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions and response options."

3. When a question is intentionally different between the CATI instrument and the paper questionnaire, keep documentation in the Blaise instrument so that it doesn't inadvertently get changed again to match the paper instrument.

4. For any CATI implementation, review the full survey for questions and statements that may be interpreted as duplicated. In this case, 'number of people involved in decisions' and 'day-to-day decisions' were often interpreted as the same concept. Once identified, either remove one of the questions, or provide information in both interviewer training and the CATI script to give interviewers information about how the questions are different.

5. For any CATI implementation, read questions aloud before finalizing the script. Examples include the 'number of people involved in decisions' question which had confusing include and exclude statements, and the 'land use decisions' question which had "e.g., grazing" as part of the question, making it unclear how interviewers should read it aloud. In either instance, these problems may have been identified by having one or more people read the questions aloud and providing feedback.

6. If survey sponsors want response options read to respondents on CATI, make it clear in training, manuals, and most importantly, CATI screens, whether interviewers should read answer categories. Include Data Collection Center (DCC) coordinators and/or National Association of State Departments of Agriculture (NASDA) interviewers in discussions on how to do this, but some initial thoughts for CATI screens are to shorten questions, limit the number of answer categories, incorporate the answer categories into the question in black text, include an enumerator instruction to "read all answer categories," and break down complicated questions into separate screens. As seen in Tables 12 and 15, response options were not read the majority of the time overall and for most questions.

3.1.2 Research Question 2: How did the respondents react to each question?

In addition to coding interviewer behavior, respondent behavior was coded to assess the frequency in which respondents exhibited behavior that indicated they were having difficulty responding to the

survey questions. For each question administered, respondent behaviors for the first exchange and the final response were coded. Table 16 shows overall response behavior for the first exchange and final response.

The number (n=725) of respondent codes in the tables in this section is less than the n=760 used in previous tables because not all question items required a respondent code. For example, the instructional statement sometimes garnered a response from the respondent even though it was not a question requiring a response.

Table 16: Overall Respondent Behavior and Final response (n=725 [1/])

Primary Code	Code Meaning	First Exchange	Final Response
		(percent)	
CA	Codable Answer	29.5	75.7
INC	Incorrect Format	28.4	3.5
QA	Qualified Answer	13.2	2.9
CLAR	Request for Clarification	5.3	0.0
INTERRPT	Interrupted Interviewer	10.3	-
VERNORES	Did Not Respond to Verification	0.7	1.4
VERCORR	Corrected Verification	0.0	0.7
VERA	Agrees with Verification	2.0	4.6
DK	"Don't know" Response	0.7	0.4
REF	Refusal	0.8	0.7
SC	Shortcutting Occurred	7.2	8.7
OTHR	Other	2.0	1.5
AC	Additional Commentary Provided	0.0	0.0

1/ Since not all items originally included with the interviewer codes required a respondent code (such as the instructional statement), the number of respondent codes (n) is less than the n=760 total for previous tables.

Across the 725 respondent behaviors that were coded, during the first exchange, only 29.5% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 75.7% in the final response, because in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format. For example:

> I: Do you have any difficulty seeing, even if you're wearing glasses?
> R: Yes, ma'am.
> I: Some or a lot?
> R: Excuse me?
> I: Is it some or a lot of difficulty?
> R: Some.
> I: Some? OK

For other responses, the interviewer could reasonably place the incorrectly formatted answer into the existing response options. Below is an example where the interviewer converted the response given by the respondent to a response option listed for the survey:

> I: What's the highest level of formal education you have achieved?
> R: A doctorate.
> I: Okay, four-year college grad or beyond.

During the first exchange, 28.4% of the responses provided were in an *incorrect format*, this lowered to 3.5% in the final response. Responses were coded as *incorrect format* when the respondent answered the question in a format that is different than the response options provided. For example, a yes/no response to the disability question, which has response options of "no difficulty," "some difficulty," "a lot of difficulty," and "cannot do at all" lead to higher levels of incorrect format being coded for the first exchange, but often could be fit into the response category for the final response (see Table 17 and Table 18 for more details).

Looking at the other respondent behavior codes, in the first exchange, 13.2% of the responses were *qualified answers*, 10.3% of the responses were *interrupting the interviewer*, and the respondent *requested clarification* in 5.3% of the first exchanges. Responses were not given because *shortcutting* occurred (that is, the question was not asked or information was not verified), or the response was changed, in 7.2% of the first exchanges. All other codes occurred at less than 5.0% (See Table 16).

For the final response, 75.7% resulted in a *codable answer*, 8.7% had no response given or response changed (*shortcutting* occurred), and remaining codes occurred at less than 5.0% (See Table 16).

Tables 17 and 18 detail the response option codes for each question for the first exchange and the final exchange. There were no instances of a primary code for the respondent *correcting a verification* (VERCORR) or a respondent adding *additional commentary* (AC) for the first exchange, so those columns were removed from Table 17. Table 18 shows the question specific coding for the final response. The codes for the respondent *requesting clarification* (CLAR), the respondent *interrupting the interviewer* (INTERRPT) and *additional commentary* (AC) were never coded for the final response, so those columns are removed from Table 18.

Table 17: First Exchange Respondent Behavior by Question

Question	No. of Interviews	First Exchange Respondent Behavior[1]										
		CA	INC	QA	CLAR	INTERRPT	VERNORES	VERA	DK	REF	SC	OTHR
		(percent)										
Number of people involved in decisions	49	28.6	26.5	32.7	4.1	4.1	0.0	0.0	0.0	0.0	2.0	2.0
Age	49	69.4	4.1	4.1	18.4	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Ethnicity	49	55.1	16.3	14.3	2.0	6.1	0.0	0.0	0.0	2.0	4.1	0.0
Race	49	34.7	18.4	10.2	4.1	8.2	2.0	0.0	2.0	0.0	18.4	2.0
Sex	17	64.7	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	29.4	0.0
Gender Identity	32	43.8	12.5	3.1	6.3	15.6	0.0	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	40.6	9.4	9.4	3.1	12.5	0.0	9.4	0.0	0.0	12.5	3.1
Sexual Orientation	32	28.1	6.3	15.6	12.5	12.5	0.0	0.0	0.0	9.4	15.6	0.0
Occupation status (farm or non-farm)	17	29.4	35.3	23.5	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0
Days worked off the farm	17	23.5	23.5	17.7	17.7	0.0	0.0	11.8	0.0	0.0	0.0	5.9
Year began ANY farm	24	12.5	4.2	37.5	16.7	4.2	0.0	0.0	12.5	4.2	4.2	4.2
Year began THIS farm	24	12.5	12.5	16.6	16.7	8.3	0.0	12.5	0.0	4.2	8.3	8.3
Day-to-day decisions	24	41.7	0.0	8.3	4.2	8.3	8.3	0	0.0	0.0	29.2	0
Land use decisions	24	45.8	0.0	4.2	0.0	25.0	4.2	4.2	0.0	0.0	12.5	4.2
Livestock decisions	24	54.2	8.3	4.2	0.0	12.5	4.2	0.0	0.0	0.0	8.3	8.3
Military service	49	2.0	73.5	4.1	0.0	16.3	0.0	0.0	0.0	0.0	0.0	4.1
Education	49	22.5	40.8	22.5	4.1	6.1	0.0	0.0	0.0	0.0	2.0	2.0
Difficulty seeing	25	12.0	52.0	16.0	4.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty hearing	25	8.0	72.0	8.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty walking	25	4.0	68.0	12.0	4.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty remembering	25	4.0	64.0	16.0	0.0	8.0	0.0	0.0	0.0	0.0	4.0	4.0
Difficulty with self-care	25	8.0	48.0	8.0	0.0	24.0	0.0	8.0	0.0	0.0	4.0	0.0
Difficulty communicating	25	4.0	52.0	12.0	0.0	20.0	0.0	4.0	4.0	0.0	4.0	0.0

1/ VERCORR and AC columns were removed because they were never coded for the first exchange respondent behavior.

Table 18: Final Response Respondent Behavior by Question

Question	No. of Interviews	CA	INC	QA	VERNORES	VERCORR	VERA	DK	REF	SC	OTHR
						(percent)					
Number of people involved in decisions	49	79.6	2.0	2.0	0.0	2.0	10.2	0.0	0.0	4.1	0.0
Age	49	93.9	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0
Ethnicity	49	81.6	4.1	0.0	0.0	0.0	0.0	2.0	0.0	12.2	0.0
Race	49	63.3	8.2	0.0	4.1	0.0	2.0	0.0	0.0	22.5	0.0
Sex	17	70.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0
Gender Identity	32	75.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	78.1	0.0	3.1	0.0	0.0	3.1	0.0	0.0	12.5	3.1
Sexual Orientation	32	56.3	3.1	3.1	0.0	3.1	9.4	3.13	6.3	15.6	0.0
Occupation status (farm or non-farm)	17	70.6	17.7	0.0	5.9	0.0	5.9	0.0	0.0	0.0	0.0
Days worked off the farm	17	58.8	5.9	0.0	0.0	5.9	29.4	0.0	0.0	0.0	0.0
Year began ANY farm	24	54.2	4.2	16.7	0.0	4.2	4.2	4.2	4.2	4.2	4.2
Year began THIS farm	24	33.3	0.0	16.7	0.0	0.0	29.2	0.0	4.2	12.5	4.2
Day-to-day decisions	24	58.3	4.2	0.0	12.5	0.0	0.0	0.0	0.0	25.0	0.0
Land use decisions	24	70.8	0.0	0.0	4.2	0.0	4.2	0.0	0.0	12.5	8.3
Livestock decisions	24	70.8	0.0	4.2	4.2	0.0	0.0	0.0	0.0	12.5	8.3
Military service	49	89.8	2.0	4.1	0.0	2.0	0.0	0.0	0.0	0.0	2.0
Education	49	83.7	2.0	2.0	0.0	0.0	6.1	0.0	0.0	4.1	2.0
Difficulty seeing	25	80.0	12.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
Difficulty hearing	25	80.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0
Difficulty walking	25	88.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty remembering	25	88.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0
Difficulty with self-care	25	80.0	0.0	0.0	4.0	0.0	12.0	0.0	0.0	4.0	0.0
Difficulty communicating	25	80.0	0.0	8.0	0.0	0.0	8.0	0.0	0.0	4.0	0.0

The header "Final Response Respondent Behavior[1]" spans the behavior columns.

1/ CLAR, INTERRPT, and AC columns were removed because they were never coded as the final response.

Tables 17 and 18 show that there is a large range in the percentage of *codable answers* across questions in both the first exchange and the final answer. Additionally, the percentage of *codable answers* went up quite dramatically between the first exchange and the final answer for all questions. This indicates that generally, the questions as administered were not answered in the first exchange in a way that allowed them to be immediately entered by interviewers. Instead, interviewers and respondents had to do additional work and answer/ask additional questions to complete the survey. Respondent codes for the disability questions and military service question illustrate this point clearly. Whereas the first exchange for each of these questions yielded a codable answer less than 13% of the time, interviewers were able to extract a codable answer from respondents in the final exchange at least 80% of the time. Section 3.3 contains question-by-question results.

During the first exchange, some questions had high rates of respondents *interrupting the interviewer*, as shown in Table 17. In particular, for all three SOGI questions, two of the decision questions, the 'military service' question, and several of the disability questions the first exchange respondent behavior was coded as *interrupted* in 10% or more of the question administrations. Coders have some possible explanations for these results. As a group, the SOGI questions had a relatively high rate of *additional commentary* from the interviewers, as presented in the question-by-question secondary interviewer

behavior results presented in section 3.3.3 in this report. This additional commentary provided an opportunity for the respondent to interrupt the interviewer with questions or their own commentary.

Coders have a different possible explanation for the decision, military, and disability questions. All of these questions have statements or qualifiers that add length to the question, but may not add value to the respondent. The two decision questions have fairly lengthy phrases informing the respondent what to include, for example "are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?" The respondent often interrupted the interviewer before the interviewer could read the entire question. Similarly, the 'military status' question is worded "have you ever served on active duty in the U.S Armed Forces, Reserves, or National Guard?" Respondents often interrupted the interviewer after the word "duty" or "forces." An example of this is:

> I: Are you, I'm sorry, have you ever served on active duty <R interrupts>
> R: No
> I: In the US armed forces, reserves <R interrupts>
> R: No
> I: Thank you ma'am
> R: No

The disability questions each had the phrase "do you have difficulty" at or near the beginning of the question, as well as qualifiers or examples in the question. For example, one of the questions was "Do you have difficulty with self-care, for example, washing all over or dressing?" Respondents sometimes interrupted after the interviewer read "for example," possibly because they did not feel they needed examples to answer the question.

Recommendations related to research question 2:

1. Similar to the recommendation in section 3.1.1, wherever possible, simplify questions and response options so that respondents can answer questions more easily in the first exchange with an interviewer. If needed, clarifying information and interviewer instructions can be displayed on the screen in purple text.

2. To decrease the number of exchanges, lower the rate at which respondents *interrupt the interviewer*, and lower the rate at which interviewers make *major modifications* to questions, remove instructions from the question text and include them as optional text on the interviewer screen or break up the instructions into separate questions.

3.1.3 Research Question 3: Did interviewers deliver the SOGI questions differently than the disability questions?

Table 19 shows the primary interviewer behavior for reading the question text for the SOGI questions as compared to the disability questions. Table 20 shows the primary interviewer behavior for reading the response options for the SOGI questions as compared to the disability questions.

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Table 19: Primary Interviewer Behavior for Reading Question Text SOGI vs. Disability

Question	No. of Interviews	Interviewer Behavior[1]					
		EW	MC	MM	DRQV	SC	OTHI
		(percent)					
SOGI Questions							
Gender Identity	32	50.0	3.1	28.1	6.3	12.5	0.0
Sex recorded at birth	32	25.0	18.8	46.9	0.0	9.4	0.0
Sexual Orientation	32	56.3	9.4	18.8	0.0	15.6	0.0
SOGI Aggregate Score	96	43.8	10.4^	31.3^	2.1	12.5^	0.0*
Disability Questions							
Difficulty seeing	25	52.0	40.0	4.0	0.0	0.0	4.0
Difficulty hearing	25	56.0	28.0	12.0	0.0	0.0	4.0
Difficulty walking	25	76.0	12.0	8.0	0.0	0.0	4.0
Difficulty remembering	25	60.0	20.0	12.0	0.0	4.0	4.0
Difficulty with self-care	25	16.0	44.0	28.0	4.0	4.0	4.0
Difficulty communicating	25	16.0	52.0	24.0	0.0	4.0	4.0
Disability Aggregate Score[2]	150	46.0	32.7^	14.7^	0.7	2.0^	4.0*

1/ DRIS column was removed because it was never coded as the primary interviewer behavior for reading question text for these questions.
2/ Totals sum to more than 100% due to rounding.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 19 shows statistically significant differences in how interviewers administered the SOGI questions when compared to the disability questions. While interviewers read questions from each question type *exactly as worded* at about the same rate (non-statistically significant 43.8% compared to 46.0%), interviewers tended to *shortcut* SOGI questions significantly more than disability questions (12.5% compared to 2.0%). Interviewers also made *major modifications* to the SOGI questions at a significant higher rate than the disability questions (31.3% compared to 14.7%), at an alpha level of 0.01 (Table 19).

Table 20: Primary Interviewer Behavior for Reading Response Options SOGI vs. Disability

Question	No. of Interviews	Interviewer Behavior[1]				
		EW	MC	MM	SC	DRIS
		(percent)				
SOGI Questions[2]						
Gender Identity	32	3.1	46.9	25.0	3.1	21.9
Sexual Orientation	32	0.0	31.3	50.0	0.0	18.8
SOGI Aggregate Score	64	1.6	39.1^	37.5^	1.6	20.3^
Disability Questions						
Difficulty seeing	25	0.0	8.0	8.0	0.0	84.0
Difficulty hearing	25	0.0	4.0	0.0	0.0	96.0
Difficulty walking	25	0.0	0.0	4.0	0.0	96.0
Difficulty remembering	25	0.0	0.0	0.0	0.0	100
Difficulty with self-care	25	0.0	0.0	0.0	0.0	100
Difficulty communicating	25	0.0	0.0	0.0	0.0	100
Disability Aggregate Score	150	0.0	2.0^	2.0^	0.0	96.0^

1/ DRQV and OTHI columns were removed because they were never coded as the primary interviewer behavior for reading response options for these questions.
2/ The variable 'sex recorded at birth' is not in this table because the response options were part of the question text.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

As mentioned above, interviewers were more likely to read the SOGI response options more often than just about all other question types (excluding occupation status). Looking at the aggregate scores for response options, interviewers *incorrectly skipped* the disability question response options significantly more than the SOGI question response options (96.0% compared to 20.3%) (Table 20). One explanation for this difference is that the disability questions tended to be read as "Yes/No" questions even though the response options are on a scale.

Recommendations: There are no recommendations for this research question, see section 3.3.3 for question-by-question recommendations.

3.1.4 Research Question 4: Did the respondents react to the SOGI questions differently than the disability questions?

Table 21 shows the first exchange respondent behavior for the SOGI questions as compared to the disability questions. Table 22 shows the final response provided for the SOGI questions as compared to the disability questions.

Table 21: First Exchange Respondent Behavior SOGI vs. Disability

Question	No. of Interviews	Respondent Behavior[1]									
		CA	INC	QA	CLAR	INTERRPT	VERA	DK	REF	SC	OTHR
		(percent)									
SOGI Questions											
Gender Identity	32	43.8	12.5	3.1	6.3	15.6	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	40.6	9.4	9.4	3.1	12.5	9.4	0.0	0.0	12.5	3.1
Sexual Orientation	32	28.1	6.3	15.6	12.5	12.5	0.0	0.0	9.4	15.6	0.0
SOGI Aggregate Score	96	37.5^	9.4^	9.4	7.3*	13.5	3.1	0.0	3.1*	15.6^	1.0
Disability Questions											
Difficulty seeing	25	12.0	52.0	16.0	4.0	16.0	0.0	0.0	0.0	0.0	0.0
Difficulty hearing	25	8.0	72.0	8.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0
Difficulty walking	25	4.0	68.0	12.0	4.0	12.0	0.0	0.0	0.0	0.0	0.0
Difficulty remembering	25	4.0	64.0	16.0	0.0	8.0	0.0	0.0	0.0	4.0	4.0
Difficulty with self-care	25	8.0	48.0	8.0	0.0	24.0	8.0	0.0	0.0	4.0	0.0
Difficulty with communicating	25	4.0	52.0	12.0	0.0	20.0	4.0	4.0	0.0	4.0	0.0
Disability Aggregate Score	150	6.7^	59.3^	12.0	1.3*	15.3	2.0	0.7	0.0*	2.0^	0.7

1/ VERCORR and AC columns were removed because they were never coded as the first exchange respondent behavior for these questions.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 22: Final response for SOGI vs. Disability

Question	No. of Interviews	Respondent Behavior[1]									
		CA	INC	QA	VERNORES	VERCORR	VERA	DK	REF	SC	OTHR
		(percent)									
SOGI Questions											
Gender Identity	32	75.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	78.1	0.0	3.1	0.0	0.0	3.1	0.0	0.0	12.5	3.1
Sexual Orientation	32	56.3	3.1	3.1	0.0	3.1	9.4	3.1	6.3	15.6	0.0
SOGI Aggregate Score	96	69.8*	2.1	2.1	1.0	1.0	4.2	1.0	2.1	15.6^	1.0
Disability Questions											
Difficulty seeing	25	80.0	12.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
Difficulty hearing	25	80.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0
Difficulty walking	25	88.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty remembering	25	88.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0
Difficulty with self-care	25	80.0	0.0	0.0	4.0	0.0	12.0	0.0	0.0	4.0	0.0
Difficulty with communicating	25	80.0	0.0	8.0	0.0	0.0	8.0	0.0	0.0	4.0	0.0
Disability Aggregate Score	150	82.7*	4.7	4.0	0.7	0.0	3.3	0.0	0.0	3.3^	1.3

1/ CLAR, INTERRPT, and AC columns were removed because they were never coded as the final response for these questions.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Looking at Tables 21 and 22, there are statistically significant differences in how respondents reacted to the SOGI and disability questions. Looking at the first exchange respondent behaviors, respondents were more likely to provide a *codable answer* to the SOGI questions than the disability questions (37.5% compared to 6.7%) (alpha = 0.01). Respondents were also more likely to provide an *incomplete response* to the disability questions when compared to the SOGI questions (59.3% compared to 9.4%, alpha = 0.01). Respondents were more likely to *refuse* the SOGI questions than the disability questions (3.1% compared to 0%, alpha = 0.05). Also of note, *shortcutting* occurred significantly higher for the SOGI questions than the disability questions (15.6% compared to 2.0%, alpha = 0.01). When considering the final exchange, of note, the percentage of *codable answers* is still significantly different, but respondents provided 82.7% *codable responses* for the disability question compared to 69.8% for the SOGI questions (alpha = 0.05). This is likely explained by the fact that "no" was easily converted to a codable final response of 'little to no difficulty', across the six disability questions. For those that reported some difficulty or above, the additional exchanges were needed for respondents to clarify their initial response to become codable. *Shortcutting* still occurred at significantly higher rate for the SOGI questions (15.6%) in the final exchange than the disability questions (3.3%) (alpha = 0.01).

Recommendations: There are no recommendations for this research question, see section 3.3.3 for question-by-question recommendations.

3.1.5 Research Question 5: Did interviewers deliver the SOGI questions differently than other conventional demographic questions and producer characteristic questions?

The focus of this project was to determine how interviewers administered and respondents reacted to SOGI and disability questions. For comparison, we conducted behavior coding for other conventional demographic questions and producer characteristic questions from the FPS.
Conventional demographic questions included are sex, age, ethnicity, race, military status, and education. Producer characteristics included are occupation status (farm or non-farm), days worked off the farm, the year the person started operating ANY operation, the year they started operating THIS operation, and three decision making questions – day-to-day decisions, land use decisions, and livestock decisions.

Table 23 shows the primary interviewer behavior for reading the question text for the SOGI questions as compared to the conventional demographic questions. Table 24 shows the primary interviewer behavior for reading the response options for the SOGI questions as compared to the conventional demographic questions.

Table 25 shows the primary interviewer behavior for reading the question text for the SOGI questions as compared to the producer characteristic questions. Table 26 shows the primary interviewer behavior for reading the response options for the SOGI questions as compared to the producer characteristics questions.

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Table 23: Primary Interviewer Behavior for Reading Question Text SOGI vs. Conventional Demographic Questions

Question	No. of Interviews	Interviewer Behavior						
		EW	MC	MM	DRQV	SC	DRIS	OTHI
		(percent)						
SOGI Questions								
Gender Identity	32	50.0	3.1	28.1	6.3	12.5	0.0	0.0
Sex recorded at birth	32	25.0	18.8	46.9	0.0	9.4	0.0	0.0
Sexual Orientation	32	56.3	9.4	18.8	0.0	15.6	0.0	0.0
Aggregate Score	96	43.8	10.4^	31.3^	2.1	12.5^	0.0	0.0
Conventional Demographic Questions								
Age	49	46.9	40.8	12.2	0.0	0.0	0.0	0.0
Ethnicity	49	67.7	16.3	10.2	0.0	4.1	0.0	2.0
Race	49	46.9	16.3	8.2	14.3	10.2	2.0	2.0
Sex	17	35.3	5.9	35.3	0.0	23.5	0.0	0.0
Military service	49	38.8	18.4	42.9	0.0	0.0	0.0	0.0
Education	49	46.9	42.9	10.2	0.0	0.0	0.0	0.0
Aggregate Score	262	48.5	25.6^	17.9^	2.7	4.2^	0.4	0.7

*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 24: Primary Interviewer Behavior for Reading Response Options SOGI vs. Conventional Demographic Questions

Question	No. of Interviews	Interviewer Behavior[1]				
		EW	MC	MM	SC	DRIS
		(percent)				
SOGI Questions[2]						
Gender Identity	32	3.1	46.9	25.0	3.1	21.9
Sexual Orientation	32	0.0	31.3	50.0	0.0	18.8
Aggregate Score	64	1.6	39.1^	37.5^	1.6	20.3^
Conventional Demographic Questions						
Ethnicity	49	4.1	0.0	0.0	0.0	95.9
Race	49	2.0	4.1	8.2	0.0	85.7
Sex	17	23.5	5.9	5.9	0.0	64.7
Military service	49	0.0	0.0	2.0	0.0	98.0
Education	49	2.0	22.5	8.2	0.0	67.4
Aggregate Score	213	3.8	6.6^	4.7^	0.0	85.0^

1/ DRQV and OTHI columns were removed because they were never coded as the primary interviewer behavior for reading response options for these questions.
2/ The variables 'sex recorded at birth" and 'age' are not in this table because the response options were part of the question text.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

As shown in Table 23, for interviewer behavior related to reading the question, the percentage of SOGI questions coded as *major modification* (MM) and *shortcutted* (SC) is significantly higher than the conventional demographics questions (alpha = 0.01). Coders have some possible explanations for this result. First, this was the first time the SOGI questions were asked on any NASS survey, so they could have been more difficult for interviewers to administer. Second, interviewers could have been uncomfortable asking SOGI questions because they felt they could be considered too personal for the respondent. An additional explanation could be that interviewers may have experienced negative respondent reactions to these questions in early interviews and modified their subsequent interviewing behavior.

Table 25: Primary Interviewer Behavior for Reading Question Text SOGI vs. Producer Characteristic Questions

Question	No. of Interviews	Interviewer Behavior						
		EW	MC	MM	DRQV	SC	DRIS	OTHI
		(percent)						
SOGI Questions								
Gender Identity	32	50.0	3.1	28.1	6.3	12.5	0.0	0.0
Sex recorded at birth	32	25.0	18.8	46.9	0.0	9.4	0.0	0.0
Sexual Orientation	32	56.3	9.4	18.8	0.0	15.6	0.0	0.0
Aggregate Score	96	43.8*	10.4*	31.3	2.1	12.5	0.0	0.0
Producer Characteristic Questions								
Occupation status (farm or non-farm)	17	29.4	41.2	29.4	0.0	0.0	0.0	0.0
Days worked off the farm	17	17.7	5.9	76.5	0.0	0.0	0.0	0.0
Year began ANY farm	24	41.7	25.0	25.0	0.0	4.2	0.0	4.2
Year began THIS farm	24	25.0	16.7	41.7	4.2	8.3	0.0	4.2
Day-to-day decisions	24	29.2	20.8	25.0	4.2	16.7	4.2	0.0
Land use decisions	24	16.7	20.8	45.8	4.2	12.5	0.0	0.0
Livestock decisions	24	37.5	12.5	41.7	0.0	8.3	0.0	0.0
Aggregate Score	154	28.6*	20.1*	39.6	2.0	7.8	0.7	1.3

*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 26: Primary Interviewer Behavior for Reading Response SOGI vs. Producer Characteristic Questions

Question	No. of Interviews	Interviewer Behavior[1]				
		EW	MC	MM	SC	DRIS
		(percent)				
SOGI Questions[2]						
Gender Identity	32	3.1	46.9	25.0	3.1	21.9
Sexual Orientation	32	0.0	31.3	50.0	0.0	18.8
Aggregate Score	64	1.6	39.1^	37.5^	1.6	20.3^
Producer Characteristic Questions						
Occupation status (farm or non-farm)	17	11.8	58.8	29.4	0.0	0.0
Day-to-day decisions	24	0.0	0.0	0.0	0.0	100
Land use decisions	24	0.0	0.0	0.0	0.0	100
Livestock decisions	24	0.0	0.0	0.0	0.0	100
Aggregate Score	89	3.3	8.0^	5.0^	0.0	83.8^

1/ DRQV and OTHI columns were removed because they were never coded as the primary interviewer behavior for reading response options for these questions.
2/ The variables 'Sex recorded at birth,' 'Days worked off the farm,' 'Year began ANY farm,' and 'Year begin THIS farm' are not in this table because the response options were part of the question text.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

The producer characteristics questions had a significantly lower rate of questions administered *exactly as worded* compared to the SOGI questions, and a significantly higher rate of *minor changes*, at the alpha = 0.05 level. The testing was done for each individual code, but Table 25 shows that if these two codes (*exact wording* and *minor change*) are added together, these question categories performed similarly to each other. The producer characteristic questions had a higher rate of questions administered with *major modifications*, although that percentage was not significant at the 0.05 level. This may indicate that the producer characteristic questions are difficult to administer, as worded, in the CATI script. Indeed, the question-by-question results in Section 3.3 will provide more details on these questions, showing this to be the case.

The response options *were not read* in over 80% of the administrations for the producer characteristics questions, significantly higher than for the SOGI questions (83.8% compared to 20.3% alpha = 0.01). However, this can be explained by the fact that the many of the producer characteristic questions had "yes" and "no" as the response options, which likely don't need to be read to the respondent while the response options for the SOGI questions were important to read to capture a response that could be coded into one of the options.

Recommendations: There are no recommendations for this research question, see Section 3.3.3 and Appendix H for question-by-question recommendations.

3.1.6 Research Question 6: Did interviewers deliver the disability questions differently than other conventional demographic questions and producer characteristic questions?

Table 27 shows the primary interviewer behavior for reading the question text for the disability questions as compared to the conventional demographic questions. Table 28 shows the primary interviewer behavior for reading the response options for the disability questions as compared to the conventional demographic questions.

Table 29 shows the primary interviewer behavior for reading the question text for the disability questions as compared to the producer characteristic questions. Table 30 shows the primary interviewer behavior for reading the response options for the disability questions as compared to the producer characteristic questions.

Table 27: Primary Interviewer Behavior for Reading Question Text by Disability vs. Conventional Demographic Questions

Question	No. of Interviews	Interviewer Behavior						
		EW	MC	MM	DRQV	SC	DRIS	OTHI
		(percent)						
Conventional Demographic Questions								
Age	49	46.9	40.8	12.2	0.0	0.0	0.0	0.0
Ethnicity	49	67.7	16.3	10.2	0.0	4.1	0.0	2.0
Race	49	46.9	16.3	8.16	14.3	10.2	2.0	2.0
Sex	17	35.3	5.9	35.3	0.0	23.5	0.0	0.0
Military service	49	38.8	18.4	42.9	0.0	0.0	0.0	0.0
Education	49	46.9	42.9	10.2	0.0	0.0	0.0	0.0
Aggregate Score	262	48.6	25.6	17.9	2.7	4.2	0.4	0.8*
Disability Questions								
Difficulty seeing	25	52.0	40.0	4.0	0.0	0.0	0.0	4.0
Difficulty hearing	25	56.0	28.0	12.0	0.0	0.0	0.0	4.0
Difficulty walking	25	76.0	12.0	8.0	0.0	0.0	0.0	4.0
Difficulty remembering	25	60.0	20.0	12.0	0.0	4.0	0.0	4.0
Difficulty with self-care	25	16.0	44.0	28.0	4.0	4.0	0.0	4.0
Difficulty communicating	25	16.0	52.0	24.0	0.0	4.0	0.0	4.0
Aggregate Score	150	46.0	32.7	14.7	0.7	3.0	0.0	4.0*

*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 28: Primary Interviewer Behavior for Reading Response Options Disability vs. Conventional Demographics

Question	No. of Interviews	Interviewer Behavior[1]				
		EW	MC	MM	SC	DRIS
		(percent)				
Conventional Demographic Questions						
Ethnicity	49	4.1	0.0	0.0	0.0	95.9
Race	49	2.0	4.1	8.2	0.0	85.7
Sex	17	23.5	5.9	5.9	0.0	64.7
Military service	49	0.0	0.0	2.0	0.0	98.0
Education	49	2.0	22.5	8.2	0.0	67.4
Aggregate Score	213	3.8*	6.6*	4.7	0.0	89.0*
Disability Questions						
Difficulty seeing	25	0.0	8.0	8.0	0.0	84.0
Difficulty hearing	25	0.0	4.0	0.0	0.0	96.0
Difficulty walking	25	0.0	0.0	4.0	0.0	96.0
Difficulty remembering	25	0.0	0.0	0.0	0.0	100
Difficulty with self-care	25	0.0	0.0	0.0	0.0	100
Difficulty communicating	25	0.0	0.0	0.0	0.0	100
Aggregate Score	150	0.0*	2.0*	2.0	0.0	96.0*

1/ DRQV and OTHI columns were removed because they were never coded as the primary interviewer behavior for reading response options for these questions.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

There were no statistically significant differences between the way interviewers administered the conventional demographic questions compared to disability questions. However, interviewers read responses options for each question type at different rates. The response options *were not read and incorrectly skipped* significantly more for the disability questions as compared to the conventional demographic questions (96.0% compared to 89.0%, alpha = 0.05). Specifically, interviewers were more likely to read response options of conventional demographic questions as *exactly worded* or with *minor changes* than they would for the latter although in both cases rates were close to, or exactly, zero percent. Interviewers read response options for the 'sex' question as *exactly worded* at a rate of 23.5%, much higher than 3.8% aggregate score (alpha = 0.05) for *exactly worded* conventional demographic questions. Additionally, the 'education' question response options were coded as *minor change* and *major modification* at 22.5% and 8.2% respectively. The former was much higher than the 6.6% aggregate score (alpha = 0.05) for conventional demographics questions that had minor changes to the response options. Interviewers' tendency to read 'sex' and 'education' response options partially accounts for slightly lower *did not read, incorrectly skipped* aggregate score for reading conventional demographics response options compared to disability questions although its *did not read, incorrectly skipped* were high for both.

Table 29: Primary Interviewer Behavior for Reading Question Text by Disability vs. Producer Characteristic Questions

Question	No. of Interviews	Interviewer Behavior						
		EW	MC	MM	DRQV	SC	DRIS	OTHI
		(percent)						
Producer Characteristic Questions								
Occupation status (farm or non-farm)	17	29.4	41.2	29.4	0.0	0.0	0.0	0.0
Days worked off the farm	17	17.7	5.9	76.5	0.0	0.0	0.0	0.0
Year began ANY farm	24	41.7	25.0	25.0	0.0	4.2	0.0	4.2
Year began THIS farm	24	25.0	16.7	41.7	4.2	8.3	0.0	4.2
Day-to-day decisions	24	29.2	20.8	25.0	4.2	16.7	4.2	0.0
Land use decisions	24	16.7	20.8	45.8	4.2	12.5	0.0	0.0
Livestock decisions	24	37.5	12.5	41.7	0.0	8.3	0.0	0.0
Aggregate Score	154	28.6^	20.1*	39.6^	2.0	7.8	0.7	1.3
Disability Questions								
Difficulty seeing	25	52.0	40.0	4.0	0.0	0.0	0.0	4.0
Difficulty hearing	25	56.0	28.0	12.0	0.0	0.0	0.0	4.0
Difficulty walking	25	76.0	12.0	8.0	0.0	0.0	0.0	4.0
Difficulty remembering	25	60.0	20.0	12.0	0.0	4.0	0.0	4.0
Difficulty with self-care	25	16.0	44.0	28.0	4.0	4.0	0.0	4.0
Difficulty communicating	25	16.0	52.0	24.0	0.0	4.0	0.0	4.0
Aggregate Score	150	46.0^	32.7*	14.7^	0.7	3.0	0.0	4.0

*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 30: Primary Interviewer Behavior for Reading Response Options Disability vs. Producer Characteristic Questions

Question	No. of Interviews	Interviewer Behavior[1]				
		EW	MC	MM	SC	DRIS
		(percent)				
Producer Characteristic Questions						
Occupation status (farm or non-farm)	17	11.7	58.8	29.4	0.0	0.0
Day-to-day decisions	24	0.0	0.0	0.0	0.0	100
Land use decisions	24	0.0	0.0	0.0	0.0	100
Livestock decisions	24	0.0	0.0	0.0	0.0	100
Aggregate Score	89	2.3	11.2^	5.6	0.0	80.9^
Disability Questions						
Difficulty seeing	25	0.0	8.0	8.0	0.0	84.0
Difficulty hearing	25	0.0	4.0	0.0	0.0	96.0
Difficulty walking	25	0.0	0.0	4.0	0.0	96.0
Difficulty remembering	25	0.0	0.0	0.0	0.0	100
Difficulty with self-care	25	0.0	0.0	0.0	0.0	100
Difficulty communicating	25	0.0	0.0	0.0	0.0	100
Aggregate Score	150	0.0	2.0^	2.0	0.0	96.0^

1/ DRQV and OTHI columns were removed because they were never coded as the primary interviewer behavior for reading response options for these questions.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

The producer characteristic questions were administered differently than the disability questions. While both were modified, they were done so in different ways. The producer characteristic questions were coded as *major modifications* at significantly higher rates than the disability questions (39.6% compared to 14.7%, alpha = 0.01)), but the reverse is true with respect to *minor changes* (20.1% compared to 32.7%, alpha = 0.05). Of note is how often "days worked off the farm" was coded as a *major modification* (76.5%). It was also coded as a *minor change* significantly lower than all other questions across the two categories. See additional analysis of the "days worked off the farm question" in Appendix H.

Recommendations: There are no recommendations for this research question, see Section 3.3.3 and Appendix H for question-by-question recommendations.

3.1.7 Research Question 7: Did respondents react to the SOGI questions differently than other conventional demographic questions and producer characteristic questions?

Table 31 shows the first exchange respondent behavior for the SOGI questions as compared to the conventional demographic questions. Table 32 shows the final answer for the SOGI questions as compared to the conventional demographic questions.

Table 33 shows the first exchange respondent behavior for the SOGI questions as compared to the producer characteristic questions. Table 34 shows the final answer for the SOGI questions as compared to the producer characteristic questions.

Table 31: First Exchange Respondent Behavior by Question SOGI vs. Conventional Demographic Questions

Question	No. of Interviews	Respondent Behavior[1/]										
		CA	INC	QA	CLAR	INTERRPT	VERNORES	VERA	DK	REF	SC	OTHR
		(percent)										
SOGI Questions												
Gender Identity	32	43.8	12.5	3.1	6.3	15.6	0.0	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	40.6	9.4	9.4	3.1	12.5	0.0	9.4	0.0	0.0	12.5	3.1
Sexual Orientation	32	28.1	6.3	15.6	12.5	12.5	0.0	0.0	0.0	9.4	15.6	0.0
Aggregate Score	96	37.5	9.4^	9.4	7.3	13.5	0.0	3.1*	0.0	3.1*	15.6^	1.0
Conventional Demographic Questions												
Age	49	69.4	4.1	4.1	18.4	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Ethnicity	49	55.1	16.3	14.3	2.0	6.1	0.0	0.0	0.0	2.0	4.1	0.0
Race	49	34.7	18.4	10.2	4.1	8.2	2.0	0.0	2.0	0.0	18.4	2.0
Sex	17	64.7	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	29.4	0.0
Military service	49	2.0	73.5	4.1	0.0	16.3	0.0	0.0	0.0	0.0	0.0	4.1
Education	49	22.5	40.8	22.4	4.1	6.1	0.0	0.0	0.0	0.0	2.0	2.0
Aggregate Score	262	38.6	28.6^	10.3	5.3	7.6	0.4	0.4*	0.4	0.4*	6.5^	1.5

1/ VERCORR and AC columns were removed because they were never coded as first exchange respondent behavior.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

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Table 32: Final response for SOGI vs. Conventional Demographic Questions

Question	No. of Interviews	Respondent Behavior[1]									
		CA	INC	QA	VERNORES	VERCORR	VERA	DK	REF	SC	OTHR
		(percent)									
SOGI Questions											
Gender Identity	32	75.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	78.1	0.0	3.1	0.0	0.0	3.1	0.0	0.0	12.5	3.1
Sexual Orientation	32	56.3	3.1	3.1	0.0	3.1	9.4	3.1	6.3	15.6	0.0
Aggregate Score	96	69.8*	2.1	2.1	1.0	1.0	4.2	1.0	2.1	15.6	1.0
Conventional Demographic Questions											
Age	49	93.9	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0
Ethnicity	49	81.6	4.1	0.0	0.0	0.0	0.0	2.0	0.0	12.2	0.0
Race	49	63.3	8.2	0.0	4.1	0.0	2.0	0.0	0.0	22.5	0.0
Sex	17	70.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0
Military service	49	89.8	2.0	4.1	0.0	2.0	0.0	0.0	0.0	0.0	2.0
Education	49	83.7	2.0	2.0	0.0	0.0	6.1	0.0	0.0	4.1	2.0
Aggregate Score	262	81.7*	3.4	1.2	0.8	0.4	1.5	0.4	0.4	9.5	0.8

1/ CLAR, INTERRPT, and AC columns were removed because they were never coded as the final response for these questions.
*statistically significant at alpha = 0.05

Responses to the SOGI questions compared to conventional demographic questions were mixed with both question types less likely to have a *codable answer* given than some other response. However, respondents were generally able to provide *codable answers* in the final exchange for conventional demographic questions significantly more often than SOGI questions at an alpha rate of 0.05 (81.7% compared to 69.8%, alpha = 0.05). This indicates that interviewers were able to ask sufficient follow-up questions after the first exchange to end up with a *codable answer* for the conventional demographic questions. Additionally, in the first exchange, respondents tended to provide responses in an *incorrect format* to conventional demographic questions at a significantly higher rate than the SOGI questions, with alpha at 0.01 (see Table 31). Conversely, SOGI questions were more likely to be *shortcutted* or *refused*, with the refusal rate slightly lower in final responses than in initial exchanges, eliminating any statistical significance patterns. Of all the questions between the two question types, the 'sex' question was *shortcutted* higher than any other.

Table 33: First Exchange Respondent Behavior by Question SOGI vs. Producer Characteristics[2]

Question	No. of Interviews	Respondent Behavior[1]										
		CA	INC	QA	CLAR	INTERRPT	VERNORES	VERA	DK	REF	SC	OTHR
		(percent)										
SOGI Questions												
Gender Identity	32	43.8	12.5	3.1	6.3	15.6	0.0	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	40.6	9.4	9.4	3.1	12.5	0.0	9.4	0.0	0.0	12.5	3.1
Sexual Orientation	32	28.1	6.3	15.6	12.5	12.5	0.0	0.0	0.0	9.4	15.6	0.0
Aggregate Score	96	37.5	9.4	9.4	7.3	13.5	0.0	3.1	0.0	3.1	15.6	1.0
Producer Characteristic Questions												
Occupation status (farm or non-farm)	17	29.4	35.3	23.5	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0
Days worked off the farm	17	23.5	23.5	17.7	17.7	0.0	0.0	11.8	0.0	0.0	0.0	5.9
Year began ANY farm	24	12.5	4.2	37.5	16.7	4.2	0.0	0.0	12.5	4.2	4.2	4.2
Year began THIS farm	24	12.5	12.5	16.7	16.7	8.3	0.0	12.5	0.0	4.2	8.3	8.3
Day-to-day decisions	24	41.7	0.0	8.3	4.2	8.3	8.3	0.0	0.0	0.0	29.2	0
Land use decisions	24	45.8	0.0	4.2	0.0	25.0	4.2	4.2	0.0	0.0	12.5	4.2
Livestock decisions	24	54.2	8.3	4.2	0.0	12.5	4.2	0.0	0.0	0.0	8.3	8.3
Aggregate Score	154	31.8	10.4	15.6	8.4	9.7	2.6	3.9	2.0	1.3	9.7	4.6

1/ VERCORR and AC columns were removed because they were never coded as first exchange respondent behavior.
2/ None of these aggregate scores were significant below alpha = 0.05

Table 34: Final response for SOGI vs. Producer Characteristics[2/]

Question	No. of Interviews	CA	INC	QA	VERNORES	VERCORR	VERA	DK	REF	SC	OTHR
					Respondent Behavior[1/]						
					(percent)						
SOGI Questions											
Gender Identity	32	75.0	3.1	0.0	3.1	0.0	0.0	0.0	0.0	18.8	0.0
Sex recorded at birth	32	78.1	0.0	3.1	0.0	0.0	3.1	0.0	0.0	12.5	3.1
Sexual Orientation	32	56.3	3.1	3.1	0.0	3.1	9.4	3.1	6.3	15.6	0.0
Aggregate Score	96	69.8	2.1	2.1	1.0	1.0	4.2	1.0	2.1	15.6	1.0
Producer Characteristic Questions											
Occupation status (farm or non-farm)	17	70.6	17.7	0.0	5.9	0.0	5.9	0.0	0.0	0.0	0.0
Days worked off the farm	17	58.8	5.9	0.0	0.0	5.9	29.4	0.0	0.0	0.0	0.0
Year began ANY farm	24	54.2	4.2	16.7	0.0	4.2	4.2	4.2	4.2	4.2	4.2
Year began THIS farm	24	33.3	0.0	16.7	0.0	0.0	29.2	0.0	4.2	12.5	4.2
Day-to-day decisions	24	58.3	4.2	0.0	12.5	0.0	0.0	0.0	0.0	25.0	0.0
Land use decisions	24	70.8	0.0	0.0	4.2	0.0	4.2	0.0	0.0	12.5	8.3
Livestock decisions	24	70.8	0.0	4.2	4.2	0.0	0.0	0.0	0.0	12.5	8.3
Aggregate Score	154	59.1	3.9	5.8	3.9	1.3	9.7	0.7	1.3	10.4	3.9

1/ CLAR, INTERRPT, and AC columns were removed because they were never coded as the final response for these questions.

2/ None of these aggregate scores were significant below alpha = 0.05

Despite lower rates of *shortcutting* and *refusals*, Tables 33 and 34 indicate respondents struggled to provide *codable answers* to producer characteristic questions more than they did for the SOGI questions. Particularly, the 'day-to-day decisions' question was *shortcutted* a quarter of the time after the final exchange. Additionally, coders documented a number of cases where respondents *agree with an interviewer's verification* for both the 'year began this farm' and 'days worked off the farm' questions. Producer characteristic questions are familiar to interviewers but require respondents to recall information they may not remember. The latter is true especially for the 'year began this farm,' 'year began any farm,' and 'days worked off the farm' questions, which all scored below the aggregate code score of 59.1%. The other question with a percentage lower than the aggregate code score was the 'day-to-day decisions' question. Despite being a yes/no question, the high rate of *shortcutting* for this question may be explained by the fact that the respondents are likely to answer affirmatively and that interviewers could glean the answer to this question from previous question-exchanges. In addition, this question was often interpreted by interviewers as duplicating the instructional statement.

Recommendations: There are no recommendations for this research question, see Section 3.3.3 and Appendix H for question-by-question recommendations.

3.1.8 Research Question 8: Did the respondent react to the disability questions differently than other conventional demographic questions and producer characteristic questions?

Table 35 shows the first exchange respondent behavior for the disability questions as compared to the conventional demographic questions. Table 36 shows the final answer for the disability questions as compared to the conventional demographic questions.

Table 37 shows the first exchange respondent behavior for the disability questions as compared to the producer characteristic questions. Table 38 shows the final answer for the disability questions as compared to the producer characteristic questions.

Table 35: First Exchange Respondent Behavior Disability vs. Conventional Demographic Questions

Question	No. of Interviews	Respondent Behavior[1]										
		CA	INC	QA	CLAR	INTERRPT	VERNORES	VERA	DK	REF	SC	OTHR
		(percent)										
Conventional Demographic Questions												
Age	49	69.4	4.1	4.1	18.4	4.1	0.0	0.0	0.0	0.0	0.0	0.0
Ethnicity	49	55.1	16.3	14.3	2.0	6.1	0.0	0.0	0.0	2.0	4.1	0.0
Race	49	34.7	18.4	10.2	4.1	8.2	2.0	0.0	2.0	0.0	18.4	2.0
Sex	17	64.7	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.0	29.4	0.0
Military service	49	2.0	73.5	4.1	0.0	16.3	0.0	0.0	0.0	0.0	0.0	4.1
Education	49	22.5	40.8	22.5	4.1	6.1	0.0	0.0	0.0	0.0	2.0	2.0
Aggregate Score	262	38.6^	28.6^	10.3	5.3*	7.6*	0.4	0.4	0.4	0.4	6.5*	1.5
Disability Questions												
Difficulty seeing	25	12.0	52.0	16.0	4.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty hearing	25	8.0	72.0	8.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty walking	25	4.0	68.0	12.0	4.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty remembering	25	4.0	64.0	16.0	0.0	8.0	0.0	0.0	0.0	0.0	4.0	4.0
Difficulty with self-care	25	8.0	48.0	8.0	0.0	24.0	0.0	8.0	0.0	0.0	4.0	0.0
Difficulty communicating	25	4.0	52.0	12.0	0.0	20.0	0.0	4.0	4.0	0.0	4.0	0.0
Aggregate Score	150	6.7^	59.3^	12.0	1.3*	15.3*	0.0	2.0	0.67	0.0	2.0*	0.7

1/ VERCORR and AC columns were removed because they were never coded as the first exchange respondent behavior for these questions.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 36: Final Response for Disability vs. Conventional Demographic Questions

Question	No. of Interviews	Respondent Behavior[1]									
		CA	INC	QA	VERNORES	VERCORR	VERA	DK	REF	SC	OTHR
		(percent)									
Conventional Demographic Questions											
Age	49	93.9	2.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0
Ethnicity	49	81.6	4.1	0.0	0.0	0.0	0.0	2.0	0.0	12.2	0.0
Race	49	63.3	8.2	0.0	4.1	0.0	2.0	0.0	0.0	22.5	0.0
Sex	17	70.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.4	0.0
Military service	49	89.8	2.0	4.1	0.0	2.0	0.0	0.0	0.0	0.0	2.0
Education	49	83.7	2.0	2.0	0.0	0.0	6.1	0.0	0.0	4.1	2.0
Aggregate Score	262	81.7	3.4	1.2	0.8	0.4	1.5	0.4	0.4	9.5*	0.8
Disability Questions											
Difficulty seeing	25	80.0	12.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
Difficulty hearing	25	80.0	12.0	0.0	4.2	0.0	4.2	0.0	0.0	4.0	4.0
Difficulty walking	25	88.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
Difficulty remembering	25	88.0	4.0	4.0	2.0	0.0	0.0	0.0	0.0	0.0	4.0
Difficulty with self-care	25	80.0	0.0	0.0	4.0	0.0	12.0	0.0	0.0	4.0	0.0
Difficulty communicating	25	80.0	0.0	8.0	0.0	0.0	8.0	0.0	0.0	4.0	0.0
Aggregate Score	150	82.7	4.7	4.0	0.7	0.0	3.3	0.0	0.0	3.3*	1.3

1/ CLAR, INTERRPT, and AC columns were removed because they were never coded as final response for these questions.
*statistically significant at alpha = 0.05

Tables 35 and 36 are notable for the sizable increase in the percentage of *codable answers* for the disability questions from the first exchange to the final response; however, the change is also sizable for conventional demographic questions moving from 36.6% to 81.7%, removing any statistically significant differences from the first exchange. While not statistically significant, the 'military service' question under the latter appears to be particularly problematic with only 2.0% of first exchanges being *codable answers*. Coders documented high rates of *incorrectly formatted* responses and *qualified answers* for this question. Still, interviewers and respondents overcame these initial issues as evidenced by the 89.8% rate of *codable answers* in the final response. See the findings for the 'miliary service' question in Appendix H.

Table 37: First Exchange Respondent Behavior Disability vs. Producer Characteristic Questions

Question	No. of Interviews	CA	INC	QA	CLAR	INTERRPT	VERNORES	VERA	DK	REF	SC	OTHR
								(percent)				
Producer Characteristic Questions												
Occupation status (farm or non-farm)	17	29.4	35.3	23.5	5.9	5.9	0.0	0.0	0.0	0.0	0.0	0.0
Days worked off the farm	17	23.5	23.5	17.7	17.7	0.0	0.0	11.8	0.0	0.0	0.0	5.9
Year began ANY farm	24	12.5	4.2	37.5	16.7	4.2	0.0	0.0	12.5	4.2	4.2	4.2
Year began THIS farm	24	12.5	12.5	16.7	16.7	8.3	0.0	12.5	0.0	4.2	8.3	8.3
Day-to-day decisions	24	41.7	0.0	8.3	4.2	8.3	8.33	0.0	0.0	0.0	29.2	0.0
Land use decisions	24	45.8	0.0	4.2	0.0	25.0	4.17	4.2	0.0	0.0	12.5	4.2
Livestock decisions	24	54.2	8.3	4.2	0.0	12.5	4.17	0.0	0.0	0.0	8.3	8.3
Aggregate Score	154	31.8^	10.4^	15.6	8.4^	9.7	2.6*	3.9	2.0	1.3	9.7^	4.6*
Disability Questions												
Difficulty seeing	25	12.0	52.0	16.0	4.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty hearing	25	8.0	72.0	8.0	0.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty walking	25	4.0	68.0	12.0	4.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0
Difficulty remembering	25	4.0	64.0	16.0	0.0	8.0	0.0	0.0	0.0	0.0	4.0	4.0
Difficulty with self-care	25	8.0	48.0	8.0	0.0	24.0	0.0	8.0	0.0	0.0	4.0	0.0
Difficulty communicating	25	4.0	52.0	12.0	0.0	20.0	0.0	4.0	4.0	0.0	4.0	0.0
Aggregate Score	150	6.7^	59.3^	12.0	1.3^	15.3	0.0*	2.0	0.67	0.0	2.0^	0.7*

1/ VERCORR and AC columns were removed because they were never coded as the first exchange respondent behavior for these questions.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Table 38: Final Response for Disability vs. Producer Characteristic Questions

Question	No. of Interviews	Respondent Behavior[1]									
		CA	INC	QA	VERNORES	VERCORR	VERA	DK	REF	SC	OTHR
		(percent)									
Producer Characteristic Questions											
Occupation status (farm or non-farm)	17	70.6	17.7	0.0	5.9	0.0	5.9	0.0	0.0	0.0	0.0
Days worked off the farm	17	58.8	5.9	0.0	0.0	5.9	29.4	0.0	0.0	0.0	0.0
Year began ANY farm	24	54.2	4.2	16.7	0.0	4.2	4.2	4.2	4.2	4.2	4.2
Year began THIS farm	24	33.3	0.0	16.7	0.0	0.0	29.2	0.0	4.2	12.5	4.2
Day-to-day decisions	24	58.3	4.2	0.0	12.5	0.0	0.0	0.0	0.0	25.0	0.0
Land use decisions	24	70.8	0.0	0.0	4.2	0.0	4.2	0.0	0.0	12.5	8.3
Livestock decisions	24	70.8	0.0	4.2	4.2	0.0	0.0	0.0	0.0	12.5	8.3
Aggregate Score	154	59.1^	3.9	5.8	3.9	1.3	9.7*	0.7	1.3	10.4*	3.9
Disability Questions											
Difficulty seeing	25	80.0	12.0	4.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
Difficulty hearing	25	80.0	12.0	0.0	4.2	0.0	4.2	0.0	0.0	4.0	4.0
Difficulty walking	25	88.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0
Difficulty remembering	25	88.0	4.0	4.0	2.0	0.0	0.0	0.0	0.0	0.0	4.0
Difficulty with self-care	25	80.0	0.0	0.0	4.0	0.0	12.0	0.0	0.0	4.0	0.0
Difficulty communicating	25	80.0	0.0	8.0	0.0	0.0	8.0	0.0	0.0	4.0	0.0
Aggregate Score	150	82.7^	4.7	4.0	0.7	0.0	3.3*	0.0	0.0	3.3*	1.3

1/ CLAR, INTERRPT, and AC columns were removed because they were never coded as final response for these questions.
*statistically significant at alpha = 0.05
^statistically significant at alpha = 0.01

Responses to the disability questions compared with producer characteristic questions differed largely because of tendencies to provide *incorrectly formatted* responses to the former set of questions. Once respondents understood that the disability questions were scaled and not closed-ended, they were able to provide *codable answers*, resulting in a rate higher than producer characteristics. In findings for research questions 5, 6, and 7, and in Appendix H, we discuss the individual questions that appear to make producer characteristic questions problematic. Here, it is important to note that the *shortcutting* among those questions was greater than for the disability questions. For every producer characteristic question where *shortcutting* occurred, the rate at which it was done was greater than the aggregate *shortcutting* score for all disability questions and each one individually. While some of the producer characteristics questions require revision, it is worth noting that exchanges and rapport building throughout the survey administration process likely contributes to some of the *shortcutting*. In fact, the producer characteristic questions, such as the decision questions, appear similar, if not exactly the same, to both interviewers and respondents.

Recommendations: There are no recommendations for this research question, see Section 3.3.3 and Appendix H for question-by-question recommendations.

3.2 Summary results for number of exchanges

In addition to coding interviewer and respondent behavior, the number of exchanges (question and answer sequences) needed to obtain a final response to the question was counted. This number can determine which questions generate more back and forth between the interviewer and the respondent.

An exchange was counted if the interviewer asked a question, and the respondent provided some type of response. If no question was asked, or if the interviewer asked a question but received no response from the respondent, the number of exchanges was coded as 0. For example, if the interviewer said, "you already told me that you are the one making day to day decisions, so I'll mark that" and the respondent did not say anything, the number of exchanges was coded as 0.

All exchanges that were related to a topic were counted, even if a codable answer was given in the first exchange. For example, if the interviewer asked, "what is your age?" the respondent answered, "I am 79 years old this year, can you believe it?" followed by the interviewer saying "wow, that is amazing, but you sound young at heart," and the respondent said "yes, sir", that was coded as two exchanges. Dialogue that was unrelated to the question, and behaviors such as laughter or silence (pauses) were ignored and not considered as exchanges.

Ideally, there would be one exchange between the interviewer and the respondent – the interviewer asked the question as worded, and the respondent provided a codable answer. If, however, the question administration lasts longer than one exchange, it can indicate the question is burdensome to respondents (Schaeffer and Maynard, 1996). Similarly, we can look at the number of exchanges to measure the administration burden on interviewers. If interviewers need to give additional information to respondents or ask follow-up information to get codable responses, it can also indicate an issue with the survey question. Questions administered with zero exchanges, can also be problematic, as it may indicate the respondent was either not asked the question or did not respond to the question.

Table 39 shows the number of exchanges by question. The 'instructional statement' is not listed in the table because no response was expected from the respondent. Information and findings about the 'instructional statement' can be found in Appendix H.

Across all the questions administered, the majority of questions were administered with only one exchange to get a response. Looking at the number of exchanges, 63.4% of the total question administrations were administered with one exchange, with individual questions ranging from 29.2% to 84.0%. Of the total question administrations, 15.9% were administered with two exchanges, with individual questions ranging from 4.2% to 29.4% and 13.1% of the total questions were administered with three or more exchanges, with individual questions ranging from 0% to 33.3%. Finally, 7.6% of the questions coded had zero exchanges, with individual questions ranging from 0% to 37.5%. More details on individual questions can be found in section 3.3 and Appendix H.

Table 39: Number of Exchanges by Question

Question	No. of Interviews [1]	Number of Exchanges[2]			
		0	1	2	3+
		(percent)			
Number of people involved in decisions	49	2.0	57.1	16.3	24.5
Age	49	0.0	61.2	16.3	22.5
Ethnicity	49	6.1	81.6	12.2	0.0
Race	49	24.5	55.1	10.2	10.2
Sex	17	23.5	47.1	17.7	11.8
Gender Identity	32	12.5	53.1	15.6	18.8
Sex recorded at birth	32	12.5	59.4	15.6	12.5
Sexual Orientation	32	9.4	46.9	18.8	25.0
Occupation status (farm or non-farm)	17	0.0	58.8	29.4	11.8
Days worked off the farm	17	0.0	47.1	29.4	23.5
Year began ANY farm	24	4.2	33.3	29.2	33.3
Year began THIS farm	24	8.3	29.2	29.2	33.3
Day-to-day decisions	24	37.5	58.3	4.2	0.0
Land use decisions	24	16.7	70.8	8.3	4.2
Livestock decisions	24	16.7	66.7	16.7	0.0
Military service	49	0.0	83.7	8.2	8.2
Education	49	0.0	63.3	26.5	10.2
Difficulty seeing	25	0.0	72.0	8.0	20.0
Difficulty hearing	25	0.0	80.0	12.00	8.0
Difficulty walking	25	0.0	76.0	20.0	4.0
Difficulty remembering	25	4.0	84.0	12.0	0.0
Difficulty with self-care	25	4.0	76.0	8.0	12.0
Difficulty communicating	25	4.0	72.0	16.0	8.0
Total	711	7.6	63.4	15.9	13.1

1/ The number of interviews shows the number of times the question should have been administered.
2/ The number of exchanges is a count of the topic-related full exchanges.

The questions with the most exchanges were the 'number of people involved in decisions for the operation,' 'age,' 'sexual orientation,' 'days worked off the farm,' the 'year began operating any farm,' the 'year began operating this farm,' and 'difficulty seeing,' all of which had 3 or more exchanges in 20% of the interviews. Coders noticed some interesting issues with these questions that might explain these numbers. For example, the phrase "on December 31, 2021" made several respondents ask for clarification in the 'age' question. The 'age' question also generated some conversation after the question was answered where interviewers and respondents laughed or commiserated about their age. The 'sexual orientation' question, on the other hand, seemed to elicit additional questions from the respondent or additional commentary from the interviewer. Coders observed that the 'difficulty seeing' question caused several respondents to be confused with the change in topic, as there was no transition statement. Subsequent disability questions did not have the same issue.

The 'days worked off the farm,' the 'year began operating any farm', and the 'year began operating this farm' were particularly difficult for interviews and respondents. These three questions (along with

'sexual orientation') have the lowest percentage of interviews that required more than one exchange. In fact, the 'year began operating any farm' and the 'year they began operating this farm' required more than one exchange in about two-thirds of the interviews. Respondents and interviewers often did not recognize the difference between the two questions.

For the 'days worked off the farm in 2021' question, coders noticed that respondents had difficulty calculating the number, and many worked full time off the farm.

Recommendations based on the number of exchanges results are presented with the question-by-question results in Section 3.3 and Appendix H.

3.3 Question-by-question results

This section provides results and recommendations from the behavior coding for each individual SOGI and disability question that was coded. Question specific results are presented to help assist in identifying which questions may need to be modified and aid in specific recommendations. A screen shot of how each question looked in the CATI instrument is provided in addition to a summary table. The summary table presented shows the number of exchanges, the primary and secondary interview codes, and the respondent behavior.

Findings and recommendations for the conventional demographic questions and producer characteristic questions are in Appendix H.

3.3.1. Disability Questions

There were six disability questions asked for the questionnaire versions that included disability questions, versions 2, 4, and 6. Therefore, these questions were coded for 25 interviews. To assess how each question performed, the following were assessed: the number of exchanges it took to get a final response, the way the question was administered (primary and secondary interviewer codes), and the respondent behavior. Recommendations are provided after findings for all six questions are presented.

3.3.1.1 Difficulty Seeing

Figure 1 shows the 'difficulty seeing' question as shown in the CATI instrument.

Figure 1: Difficulty Seeing, CATI

Table 40: Summary of Behavior Codes for Difficulty Seeing *(n=25)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	0.0	-	-	-	-
1	One exchange	72.0	-	-	-	-
2	Two exchanges	8.0	-	-	-	-
3+	Three or more exchanges	20.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	52.0	0.0	-	-
MC	Minor Change	-	40.0	8.0	-	-
MM	Major Modification	-	4.0	8.0	-	-
DRQV	Did Not Read - Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	84.0	-	-
SC	Shortcutted	-	0.0	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1/]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	4.0	4.0	-	-
TS	Transition Statement	-	0.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	16.0	0.0	-	-
AC	Additional Commentary	-	0.0	0.0	-	-
NONE	No secondary codes present		84.0	96.0		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	12.0	80.0
INC	Incorrect Format	-	-	-	52.0	12.0
QA	Qualified Answer	-	-	-	16.0	4.0
CLAR	Request for Clarification	-	-	-	4.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	16.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	0.0	4.0
OTHR	Other	-	-	-	0.0	0.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 40 shows the summary of the behavior codes for the disability question, 'difficulty seeing.' In looking at the number of exchanges for this question, the majority or 72.0%, of the administrations were done in one exchange, 8.0% were administered with two exchanges, and 20.0% were administered with three or more exchanges.

In looking at how the 'difficulty seeing' question was administered, 52.0% of question administrations were done with *exact wording*, 40.0% of the question administrations had *minor changes*, and only 4.0% were administered with *major modifications*. The majority of the administrations for this question did

not have any secondary codes present (84.0%), 16.0% were the respondent *interrupting the interviewer* and 4.0% had *repeated wording*.

For the response options administration for 'difficulty seeing', 84.0% of the response options were *not read and incorrectly skipped*, 8.0% were administered with *minor changes,* and 8.0% were administered with *major modifications*. The vast majority (96.0%) of the administrations for this response options did not have any secondary codes present, and 4.0% had *repeated wording*.

The respondent behavior codes for 'difficulty seeing' question show that during the first exchange only 12.0% of the responses given were in a *codable format* that matched the response options in the questionnaire. This could be related to the fact that in 84.0% of the administrations, interviewers did not provide the response options to the respondents. For the final response, this changed to 80.0% of responses being a *codable answer* in the final response, in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

Looking at the other respondent behavior codes during the first exchange, 52.0% of the responses provided were in an *incorrect format*, this lowered to 12.0% in the final response. Responses were coded as *incorrect format* when the respondent answered the question in a format that was different than the response options provided, for example saying, "yes" rather than "some difficulty," "a lot of difficulty," or "cannot do at all". This rate was lowered between first and final exchanges because for many instances, the interviewer could reasonably place into the incorrectly formatted question into the existing response options. An example of this is:

> I: And do you have any difficulty seeing, if you're wearing glasses?
> R: no, I wear glasses, but no

Looking at the other respondent behavior codes in the first exchange, 12.0% of the responses were a *codable answer*, 16.0% were *qualified answers*, and 16.0% *interrupted the interviewer*. Other codes occurred less than 5.0% of the time in the first exchange (See Table 40).

3.3.1.2 Difficulty Hearing

Figure 2 shows the 'difficulty hearing' question as shown in the CATI instrument.

Figure 2: Difficulty Hearing, CATI

Do you have difficulty hearing, even if using a hearing aid?

C 1. No difficulty
C 2. Some difficulty
C 3. A lot of difficulty
C 4. Cannot do at all

Table 41: Summary of Behavior Codes for Difficulty Hearing (*n*=25)

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	0.0	-	-	-	-
1	One exchange	80.0	-	-	-	-
2	Two exchanges	12.0	-	-	-	-
3+	Three or more exchanges	8.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	56.0	0.0	-	-
MC	Minor Change	-	28.0	4.0	-	-
MM	Major Modification	-	12.0	0.0	-	-
DRQV	Did Not Read - Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	96.0	-	-
SC	Shortcutted	-	0.0	0.0	-	-
OTHI	Other	-	4.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	4.0	0.0	-	-
TS	Transition Statement	-	0.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	12.0	0.0	-	-
AC	Additional Commentary	-	4.0	0.0	-	-
NONE	No secondary codes present		80.0	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	8.0	80.0
INC	Incorrect Format	-	-	-	72.0	12.0
QA	Qualified Answer	-	-	-	8.0	0.0
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	12.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification		-	-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	0.0	4.0
OTHR	Other	-	-	-	0.0	4.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 41 shows the summary of the behavior codes for the disability question, 'difficulty hearing.' In looking at the number of exchanges for this question, 80.0% of the administrations were done in one exchange, 12.0% were administered with two exchanges, and 8.0% were administered with three or more exchanges.

In looking at how the 'difficulty hearing' question was administered, 56.0% of question administrations were done with *exact wording*, 28.0% of the question administrations had *minor changes*, and 12.0%

were administered with *major modifications*. The majority (80.0%) of the administrations for this question did not have any secondary codes present, 12.0% were the respondent *interrupting the interviewer*. Other secondary codes were coded less than 5.0% of the time.

For the response options administration for 'difficulty hearing', 96.0% of the response options were *not read and incorrectly skipped*, and 4.0% were administered with *minor changes*. None of the administrations for response options had any secondary codes present.

The respondent behavior codes for 'difficulty hearing' question show that during the first exchange only 8.0% of the responses given were in a *codable format* that matched the response options in the questionnaire. This could be related to the fact that in 96.0% of the administrations did not provide the response options to the respondents. For the final response, this changed to 80.0% of responses being a *codable answer* in the final response, because interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

During the first exchange, 72.0% of the responses provided were in an *incorrect format*, this lowered to 12.0% in the final response. Responses were coded as *incorrect format* when the respondent answered the question in a format that was different than the response options provided, for example saying, "yes" rather than "some difficulty," "a lot of difficulty," or "cannot do at all." This rate was lowered between first and final exchanges because for many responses, the interviewer could reasonably place into the incorrectly formatted question into the existing response options.

Looking at the other respondent behavior codes, in the first exchange, 12.0% *interrupted the interviewer*, and 8.0% provided a *qualified answer*. All other codes occurred at 5.0% or less (See Table 41).

3.3.1.3 Difficulty Walking

Figure 3 shows the 'difficulty walking' question as shown in the CATI instrument.

Figure 3: Difficulty Walking, CATI

Do you have difficulty walking or climbing steps?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Table 42: Summary of Behavior Codes for Difficulty Walking *(n*=25)

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	0.0	-	-	-	-
1	One exchange	76.0	-	-	-	-
2	Two exchanges	20.0	-	-	-	-
3+	Three or more exchanges	4.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	76.0	0.0	-	-
MC	Minor Change	-	12.0	0.0	-	-
MM	Major Modification	-	8.0	4.0	-	-
DRQV	Did Not Read - Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	96.0	-	-
SC	Shortcutted	-	0.0	0.0	-	-
OTHI	Other	-	4.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	4.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	12.0	0.0	-	-
AC	Additional Commentary	-	4.0	0.0	-	-
NONE	No secondary codes present		84.0	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	4.0	88.0
INC	Incorrect Format	-	-	-	68.0	4.0
QA	Qualified Answer	-	-	-	12.0	8.0
CLAR	Request for Clarification	-	-	-	4.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	12.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	0.0	0.0
OTHR	Other	-	-	-	0.0	0.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 42 shows the summary of the behavior codes for the disability question, 'difficulty walking.' In looking at the number of exchanges for this question, 76.0% of the administrations were done in one exchange, 20.0% were administered with two exchanges, and 4.0% were administered with three or more exchanges.

In looking at how the 'difficulty walking' question was administered, the majority (76.0%) of question administrations were done with *exact wording*, 12.0% of the question administrations had *minor changes,* and 8.0% were administered with *major modifications*.

The majority (84.0%) of the administrations for this question did not have any secondary codes present, but in 12.0% of the administrations the respondent *interrupted the interviewer*. All other secondary codes were coded less than 5.0% of the time.

For the response options administration for 'difficulty walking', 96.0% of the response options were *not read and incorrectly skipped*, and 4.0% were administered with *major modifications*. None of the administrations for the response options had any secondary codes present.

The respondent behavior codes for 'difficulty walking' question show that during the first exchange only 4.0% of the responses given were in a *codable format* that matched the response options in the questionnaire. This could be related to the fact that in 96.0% of the administrations did not provide the response options to the respondents. For the final response, this changed to 88.0% of responses being a *codable answer* in the final response, because interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

During the first exchange, 68.0% of the responses provided were in an *incorrect format*, this lowered to 4.0% in the final response. Responses were coded as *incorrect format* when the respondent answered the question in a format that was different than the response options provided, for example saying, "yes" rather than "some difficulty," "a lot of difficulty," or "cannot do at all." This rate was lowered between first and final exchanges because for many responses, the interviewer could reasonably place the incorrectly formatted answer into the existing response options.

Looking at the other respondent behavior codes, in the first exchange, 12.0% provided a *qualified answer*, 12.0% *interrupted the interviewer* and 4.0% *requested clarification*. In the final exchange, 8.0% still provided a *qualified answer* (See Table 42). All other respondent behaviors were coded less than 5.0% of the time.

3.3.1.4 Difficulty Remembering or Concentrating

Figure 4 shows the 'difficulty remembering or concentrating' question as shown in the CATI instrument.

Figure 4: Difficulty Remembering or Concentrating, CATI

Table 43: Summary of Behavior Codes for Difficulty Remembering or Concentrating *(n*=25)

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	4.0	-	-	-	-
1	One exchange	84.0	-	-	-	-
2	Two exchanges	12.0	-	-	-	-
3+	Three or more exchanges	0.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	60.0	0.0	-	-
MC	Minor Change	-	20.0	0.0	-	-
MM	Major Modification	-	12.0	0.0	-	-
DRQV	Did Not Read - Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	100	-	-
SC	Shortcutted	-	4.0	0.0	-	-
OTHI	Other	-	4.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	4.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	8.0	0.0	-	-
AC	Additional Commentary	-	0.0	0.0	-	-
NONE	No secondary codes present		88.0	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	4.0	88.0
INC	Incorrect Format	-	-	-	64.0	0.0
QA	Qualified Answer	-	-	-	16.0	4.0
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	8.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	4.0	4.0
OTHR	Other	-	-	-	4.0	4.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 43 shows the summary of the behavior codes for the disability question, 'difficulty remembering or concentrating.' In looking at the number of exchanges for this question, 84.0% of the administrations were done with one exchange, 12.0% were administered with two exchanges, and 4.0% were administered with zero exchanges, indicating the question was not administered or the respondent did not answer the question.

In looking at how the 'difficulty remembering or concentrating' question was administered, 60.0% of question administrations were done with *exact wording*, 20.0% of the question administrations had *minor changes*, and 12.0% were administered with *major modifications*. *Shortcutting* occurred in 4.0% of the questions, with the interviewer either not asking the question or verifying but entering a response or changing a response given by a respondent. The majority (88.0%) of the administrations for this question did not have any secondary codes present, 8.0% were the respondent *interrupting the interviewer*, and 4.0% had a *transition statement*.

For the response options administration for 'difficulty remembering or concentrating', 100% of the response options were not read and incorrectly skipped. None of the administrations for the response options had any secondary codes present.

The respondent behavior codes for 'difficulty remembering or concentrating' question show that during the first exchange only 4.0% of the responses given were in a *codable format* that matched the response options in the questionnaire. This could be related to the fact that the interviewer never read the response options to the respondents. For the final response, this changed to 88.0% of responses being a *codable answer*; in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

During the first exchange, 64.0% of the responses provided were in an *incorrect format*; this lowered to 0% in the final response. Responses were coded as *incorrect format* when the respondent answered the question in a format that was different than the response options provided, for example saying, "yes" rather than "some difficulty," "a lot of difficulty," or "cannot do at all." This rate was lowered between first and final exchanges because for many responses, the interviewer could reasonably place into the incorrectly formatted answer into the existing response options.

Looking at the other respondent behavior codes, in the first exchange, 16.0% provided a *qualified answer*, 8.0% *interrupted the interviewer*, and 4.0% were *shortcutted*, with the response not given because the question was not asked or verified, or the response was changed. All other codes occurred at less than 5.0% (See Table 43).

3.3.1.5 Difficulty with Self-Care

Figure 5 shows the 'difficulty with self-care' question as shown in the CATI instrument.

Figure 5: Difficulty with Self-Care, CATI

Table 44: Summary of Behavior Codes for Difficulty with Self-Care *(n=25)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	4.0	-	-	-	-
1	One exchange	76.0	-	-	-	-
2	Two exchanges	8.0	-	-	-	-
3+	Three or more exchanges	12.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	16.0	0.0	-	-
MC	Minor Change	-	44.0	0.0	-	-
MM	Major Modification	-	28.0	0.0	-	-
DRQV	Did Not Read - Verification	-	4.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	100	-	-
SC	Shortcutted	-	4.0	0.0	-	-
OTHI	Other	-	4.0	0.0	-	-
Secondary Interview Code[1/]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	0.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	16.0	0.0	-	-
AC	Additional Commentary	-	12.0	0.0	-	-
NONE	No secondary codes present		72.0	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	8.0	80.0
INC	Incorrect Format	-	-	-	48.0	0.0
QA	Qualified Answer	-	-	-	8.0	0.0
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	24.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	4.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	8.0	12.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	4.0	4.0
OTHR	Other	-	-	-	0.0	0.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 44 shows the summary of the behavior codes for the disability question, 'difficulty with self-care.' In looking at the number of exchanges for this question, 76.0% of the administrations were done with one exchange, 8.0% were administered with two exchanges, 12.0% were administered with three or more exchanges, and 4.0% were administered with zero exchanges, indicating the question was not administered or the respondent did not answer the question.

In looking at how the 'difficulty with self-care' question was administered, only 16.0% of question administrations were done with *exact wording*, 44.0% had *minor changes*, and 28.0% were administered with *major modifications*. Other primary codes were coded less than 5.0% of the time. Coders noticed that a possible reason for many of the *minor changes* or *major modifications* was due to the "for example, washing all over or dressing" text being modified or not asked. The majority (72.0%) of the administrations for this question did not have any secondary codes present, 16.0% were the respondent *interrupting the interviewer* and 12.0% had *additional commentary*.

For the response options administration for 'difficulty self-care', 100% of the response options were *not read and incorrectly skipped*. None of the administrations for the response options had any secondary codes present.

The respondent behavior codes for 'difficulty with self-care' question show that during the first exchange only 8.0% of the responses given were in a *codable format* that matched the response options in the questionnaire. This could be related to the fact that interviewers did not provide the response options to the respondent in any of the administrations. For the final response, this changed to 80.0% of responses being a *codable answer*, as interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

During the first exchange, 48.0% of the responses provided were in an *incorrect format*, this lowered to 0% in the final response. Responses were coded as *incorrect format* when the respondent answered the question in a format that was different than the response options provided, for example saying, "yes" rather than "some difficulty," "a lot of difficulty," or "cannot do at all." This rate was lowered between first and final exchanges because for many responses, because the interviewer could reasonably place into the incorrectly formatted answer into the existing response options.

Looking at the other respondent behavior codes, in the first exchange, 24.0% *interrupted the interviewer*, 8.0% provided a *qualified answer*, 8.0% of the responses were *agreeing with a verification*, and 4.0% were *shortcutted*, with the interviewer either not asking the question or verify information but entered a response or changed a response given by a respondent. In the final exchange, 12.0% of the final responses were *agreeing with a verification*, all other codes occurred at 5.0% or less (See Table 44).

3.3.1.6 Difficulty Communicating

Figure 6 shows the 'difficulty communicating' question as shown in the CATI instrument.

At the time the disability questions were developed for the FPS, the recommended question from the Washington Group had the phrase "usual (customary)," so that wording was used on the FPS. Since then, the Washington Group has updated its recommendation to remove the "(customary)" from the question.

Figure 6. Difficulty Communicating, CATI

Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Table 45: Summary of Behavior Codes for Difficulty Communicating *(n=25)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	4.0	-	-	-	-
1	One exchange	72.0	-	-	-	-
2	Two exchanges	16.0	-	-	-	-
3+	Three or more exchanges	8.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	16.0	0.0	-	-
MC	Minor Change	-	52.0	0.0	-	-
MM	Major Modification	-	24.0	0.0	-	-
DRQV	Did Not Read - Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	100	-	-
SC	Shortcutted	-	4.0	0.0	-	-
OTHI	Other	-	4.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	4.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	8.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	20.0	0.0	-	-
AC	Additional Commentary	-	0.0	0.0	-	-
NONE	No secondary codes present		68.0	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	4.0	80.0
INC	Incorrect Format	-	-	-	52.0	0.0
QA	Qualified Answer	-	-	-	12.0	8.0
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	20.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	4.0	8.0
DK	"Don't know" Response	-	-	-	4.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	4.0	4.0
OTHR	Other	-	-	-	0.0	0.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 45 shows the summary of the behavior codes for the disability question, 'difficulty communicating.' In looking at the number of exchanges for this question, 72.0% of the administrations were done with one exchange, 16.0% were administered with two exchanges, 8.0% were administered with three or more exchanges, and 4.0% were administered with zero exchanges, indicating the question was not administered or the respondent did not answer the question.

In looking at how the 'difficulty communicating' question was administered, 16.0% of question administrations were done with *exact wording*, 52.0% of the question administrations had *minor*

changes, and 24.0% were administered with *major modifications*. *Shortcutting* occurred in 4.0% of the questions, with the interviewer either not asking the question or verifying but entering a response or changing a response given by a respondent. Coders noticed that a possible reason for many of the *minor changes* or *major modifications*, was due to the "for example, understanding or being understood" or the text in paratheses "(customary)" being modified or not asked at all.

The majority (68.0%) of the administrations for this question did not have any secondary codes present, 20.0% were the respondent *interrupting the interviewer*, 8.0% had a *transition statement*, and 4.0% had *definitional text provided*.

For the response options administration for 'difficulty remembering or concentrating,' 100% of the response options were *not read and incorrectly skipped*. None of the administrations for the response options had any secondary codes present.

The respondent behavior codes for 'difficulty remembering or concentrating' question show that during the first exchange only 4.0% of the responses given were in a *codable format* that matched the response options in the questionnaire. This c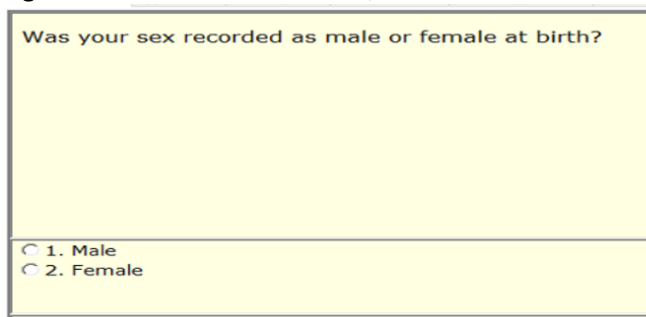ould be related to the fact that the response options were not read in any of the administrations For the final response, this changed to 80.0% of responses being a *codable answer*, in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

During the first exchange, 52.0% of the responses provided were in an *incorrect format*; this lowered to 0% in the final response. Responses were coded as *incorrect format* when the respondent answered the question in a format that was different than the response options provided, for example saying, "yes" rather than "some difficulty," "a lot of difficulty," or "cannot do at all." This rate was lowered between first and final exchanges because for many responses, the interviewer could reasonably place into the incorrectly formatted answer into the existing response options.

Looking at the other respondent behavior codes, in the first exchange, 20.0% *interrupted the interviewer*, 12.0% provided a *qualified answer*, and 4.0% were *shortcutted*, with the response not given because the question was not asked or verified, or the response was changed. In the final exchange, 8.0% provided a *qualified answer* and 8.0% of respondents *agreed with the interviewer's verification*. All other codes occurred at 5.0% or less (See Table 45).

3.3.1.7 Recommendations for disability questions

1. Before asking disability questions, add a transition statement such as "The next questions ask about difficulties you may have doing certain activities" as recommended by the Washington Group on Disability Statistics. As indicated by the number of exchanges for the first disability question (difficulty seeing), respondents (and interviewers) were a bit confused with the transition to these questions.

2. After the first disability question is asked, include the wording "do you have any difficulty" in purple text as optional. Respondents seemed a bit annoyed at the repetitive nature of the questions starting with "do you have any difficulty," leading to much of the minor change coding

for the questions and the relatively high percentage of times the respondent interrupted the interviewer.

3. To encourage reading the response options, at least on the first question in the series, consider implemented one of the following:
   o Use the wording "Would you say…" [Read response categories] at the end of the questions, as recommended by the Washington Group on Disability Statistics. Response options were not read for these questions most of the time. As evidenced by the large number of first exchanges coded as *incorrect format*, respondents often answered these questions with "yes" or "no" because response options were not read.
   o Move the response options into the question area of the CATI screen in black text as part of the first question.
   o Provide specific interviewer instructions in purple, for example "[ENUM] Read response options".

4. Re-word the 'difficulty with the self-care' question for CATI implementation, given that the "for example, washing all over and dressing" was not being read. For example, "Do you have difficulty with self-care? [ENUM] for example, washing all over and dressing."

5. Re-word the 'difficulty communicating' question for CATI implementation, given that the "for example, understanding or being understood" was not being read and the "usual (customary) language" component was confusing. This question may be better worded for CATI as "Using your usual language, do you have difficulty communicating? [ENUM: For example, understanding or being understood"]. This matches The Washington Group's recommended wording as of October 2022 that has "(customary)" removed.

3.3.2 SOGI Questions

This section contains the SOGI questions for gender identity, sex recorded at birth, and sexual orientation, as well as a confirmation question if the respondent reported a gender identity that did not match their sex recorded at birth. The three SOGI questions were asked in versions 3, 4, 5, and 6. Therefore, they were coded for 32 interviews. The confirmation question was never coded as it was not asked in any of the interviewers that were coded for this project. To assess how each question performed, the following will be assessed: the number of exchanges it took to get a final response, the way the question was administered (primary and secondary interviewer codes, where applicable), and the respondent behavior. Recommendations are provided after findings for all four questions are presented.

3.3.2.1 Gender Identity

Figure 7 shows the 'gender identity' question as shown in the CATI instrument.

Figure 7: Gender Identity, CATI


```
How do you currently describe yourself?




  ○ 1. Male                                        ○ 4. None of these, specify
  ○ 2. Female
  ○ 3. Transgender
```

Table 46: Summary of Behavior Codes for Gender Identity *(n=32)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	12.5	-	-	-	-
1	One exchange	53.1	-	-	-	-
2	Two exchanges	15.6	-	-	-	-
3+	Three or more exchanges	18.8	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	50.0	3.1	-	-
MC	Minor Change	-	3.1	46.9	-	-
MM	Major Modification	-	28.1	25.0	-	-
DRQV	Did Not Read - Verification	-	6.3	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	21.9	-	-
SC	Shortcutted	-	12.5	3.1	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1/]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	3.1	0.0	-	-
TS	Transition Statement	-	15.6	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	3.1	18.8	-	-
AC	Additional Commentary	-	18.8	0.0	-	-
NONE	No secondary codes present		65.6	81.3		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	43.8	75.0
INC	Incorrect Format	-	-	-	12.5	3.1
QA	Qualified Answer	-	-	-	3.1	0.0
CLAR	Request for Clarification	-	-	-	6.3	0.0
INTERRPT	Interrupted Interviewer	-	-	-	15.6	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	3.1
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	18.8	18.9
OTHR	Other	-	-	-	0.0	0.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 46 shows the summary of the behavior codes for the SOGI question, 'gender identity.' In looking at the number of exchanges for this question, only 53.1% were administered with one exchange, 15.6% were administered with two exchanges, and 18.8% were administered with three or more exchanges. Additionally, 12.5% were administered with zero exchanges, indicating that the question was not asked or not responded to. These results point to the question potentially being burdensome for the respondent to answer and/or for the interviewer to administer.

In looking at how the 'gender identity' question was administered, 50.0% of the administrations were done with *exact wording*, 3.1% of the question administrations had *minor changes*, and 28.1% were administered with *major modifications*. Coders noted that the many of the *major modifications* made by interviewers came from adding *additional commentary* and *transition statements*. Here is an example of *additional commentary*:

> I: How do you currently describe yourself, and this is where it gets a little uncomfortable, I know you're like what does she mean? It wants to know if you classify describe yourself as male, female, transgender, none of these? I know what to put, but I can't just <R interrupts>
> R: Male

Here is an example of a *transition statement* that was used:

> I: Alright, now again, with some of these questions, if you feel uncomfortable answering 'em, that's ok. They're a little different. We haven't asked this before. Um, but do you currently describe yourself as female or other?
> R: I am a female

Almost 19% of the administrations were not read or had responses changed with 12.5% of the administrations *shortcutted* and 6.3% *were not read but verified*. This points to potential issues that interviewers may have with either making assumptions about respondent's answers or problems with administering the question. Interviewer training may be beneficial to stress the importance of asking this question.

The majority (65.6%) of the question administrations did not have any secondary codes present, 18.8% of the administrations had *additional commentary* added, 15.6% had a *transition statement*, all other secondary codes occurred at 3.1% or less.

For the response options administration for 'gender identity', only 3.1% were administered with *exact wording*, 46.9% were administered with *minor changes*, 25.0% had *major modifications*, and 21.9% were *not read and incorrectly skipped*. Most (81.3%) of the administrations of the response options did not have secondary codes present and the *interviewer was interrupted* during 18.8% of the response option administrations.

For the respondent behavior codes for the 'gender identity' question, during the first exchange 43.8% of the responses given were in a *codable format* that matched the response options in the questionnaire.

This changed to 75.0% in the final response, as interviewers were able to ask follow-up questions to get to a final response in the correct format.

During the first exchange, 12.5% of the responses provided were in an *incorrect format*, this lowered to 3.1% in the final response. Looking at the other respondent behavior codes, in the first exchange, 15.6% of the responses were *interrupting the interviewer*, and 6.3% were *requests for clarification*. *Shortcutting* occurred in 18.8% of the administrations, with responses not given because the question was not asked or verified, or a response was changed. All other codes occurred at less than 5.0% (See Table 46).

3.3.2.2 Sex Recorded at Birth

Figure 8 shows the 'sex recorded at birth' as shown in the CATI instrument.

Figure 8. Sex Recorded at Birth, CATI

Table 47: Summary of Behavior Codes for Sex Recorded at Birth *(n*=32) [1]

Item/Code	Code Meaning	Percent	Reading Question Text	First Exchange	Final Response
Number of Exchanges			(percent)		
0	Zero exchanges	12.5	-	-	-
1	One exchange	59.4	-	-	-
2	Two exchanges	15.6	-	-	-
3+	Three or more exchanges	12.5	-	-	-
Primary Interview Code					
EW	Exact Wording	-	25.0	-	-
MC	Minor Change	-	18.8	-	-
MM	Major Modification	-	46.9	-	-
DRQV	Did Not Read - Verification	-	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	-	-
SC	Shortcutted	-	9.4	-	-
OTHI	Other	-	0.0	-	-
Secondary Interview Code[2]					
DT	Definitional Text	-	0.0	-	-
RW	Repeated Wording	-	15.6	-	-
TS	Transition Statement	-	6.3	-	-
INTERRPT	Respondent interrupts interviewer	-	12.5	-	-
AC	Additional Commentary	-	12.5	-	-
NONE	No secondary codes present		59.4		
Respondent Behavior Code					
CA	Codable Answer	-	-	40.6	78.1
INC	Incorrect Format	-	-	9.4	0.0
QA	Qualified Answer	-	-	9.4	3.1
CLAR	Request for Clarification	-	-	3.1	0.0
INTERRPT	Interrupted Interviewer	-	-	12.5	0.0
VERNORES	Did Not Respond to Verification	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	0.0	0.0
VERA	Agrees with Verification			9.4	3.1
DK	"Don't know" Response	-	-	0.0	0.0
RF	Refusal	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	12.5	12.5
OTHR	Other	-	-	3.1	3.1

1/ Response options were not coded for this item.
2/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 47 shows the summary of the behavior codes for the SOGI question, 'sex recorded at birth.' In looking at the number of exchanges for this question, only 59.4% were administered with one exchange, 15.6% were administered with two exchanges, and 12.5% were administered with three or more exchanges. For the question administration, 12.5% were administered with zero exchanges, indicating

that the question was not asked or not responded to. These results point to the question potentially being burdensome for the respondent to answer and/or for the interviewer to administer.

In looking at how the 'sex recorded at birth' question was administered, only 25.0% of the administrations were done with *exact wording*, 18.8% of the question administrations had *minor changes*, and 46.9% were administered with *major modifications*. Coders noted that many of the *major modifications* made by interviewers came from adding *additional commentary* and *transition statements*. Here is an example of *additional commentary*:

> I: And sir, what was your sex recorded at birth, was it male as well?
> R: I hope so, yeah
> I: OK, I know these questions seem a little bit odd <respondent laughs>, but we're just trying to get a good picture of agriculture.

Shortcutting occurred in 9.4% of the administrations, pointing to potential issues that interviewers may have with either making assumptions about respondent's answers or problems with administering the question. As with the other SOGI questions, interviewer training may be beneficial to stress the importance of asking this question.

No secondary codes were present in 59.4% of question administrations, 15.6% had *repeated wording*, 12.5% had *additional commentary* added, 12.5% has the *respondent interrupting the interviewer*, 6.3% had a *transition statement*, and none had *definitional text* added.

For the respondent behavior codes for 'sex recorded at birth' question, during the first exchange 40.6% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 78.1% in the final response, as in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format.

Looking at the other respondent behavior codes, in the first exchange, 12.5 % of the responses were *interrupting the interviewer*, 9.4% were in the *incorrect format*, 9.4% provided a *qualified response*, and 9.4% *agreed with a verification*. *Shortcutting* occurred in 12.5% the exchanges, with responses not given because the question was not asked or verified, or a response was changed. All other respondent behavior codes occurred less than 5.0% of the time. (See Table 47).

3.3.2.3 Confirmation Question

The confirmation question had the potential to be asked in versions 5 and 6 of the CATI instrument. This question was only asked if a respondent indicated that their 'gender identity' was different from their 'sex recoded at birth'. For example, if a respondent indicated that their sex was recorded as male at birth, but they currently identify as female, they would then receive the confirmation question.

Of the 49 coded interviews for this project, 18 were versions 5 and 6, however none of the respondents in these interviews reported a 'gender identity' that was different from their 'sex recorded at birth.' Therefore, this question was never coded for this project. Figure 9 shows the confirmation question as

shown in the CATI instrument. Some text in the CATI image is green, as it would be pre-filled based upon the previous responses given by the respondent.

Figure 9: Confirmation, CATI

Just to confirm, you were recorded as **Female** at birth and currently describe yourself as **Male**. Is that correct?

○ 1. YES
○ 3. NO

3.3.2.4 Sexual Orientation

Figure 10 shows the 'sexual orientation' question as shown in the CATI instrument.

Figure 10. Sexual Orientation, CATI

Which of the following best represents how you think of yourself?

☐ 1. Gay or lesbian
☐ 2. Straight, that is, not gay or lesbian
☐ 3. Bisexual
☐ 4. None of these, specify
☐ 5. I am not sure yet
☐ 6. I don't know what this question means

Table 48: Summary of Behavior Codes for Sexual Orientation *(n=32)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	9.4	-	-	-	-
1	One exchange	46.9	-	-	-	-
2	Two exchanges	18.8	-	-	-	-
3+	Three or more exchanges	25.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	56.3	0.0	-	-
MC	Minor Change	-	9.4	31.3	-	-
MM	Major Modification	-	18.8	50.0	-	-
DRQV	Did Not Read - Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	18.8	-	-
SC	Shortcutted	-	15.6	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	12.5	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	6.3	0.0	-	-
AC	Additional Commentary	-	18.8	0.0	-	-
NONE	No secondary codes present		65.6	100.0	-	-
Respondent Behavior Code						
CA	Codable Answer	-	-	-	28.1	56.3
INC	Incorrect Format	-	-	-	6.3	3.1
QA	Qualified Answer	-	-	-	15.6	3.1
CLAR	Request for Clarification	-	-	-	12.5	0.0
INTERRPT	Interrupted Interviewer	-	-	-	12.5	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	3.1
VERA	Agrees with Verification			-	0.0	9.4
DK	"Don't know" Response	-	-	-	0.0	3.1
RF	Refusal	-	-	-	9.4	6.3
SC	Shortcutting Occurred	-	-	-	15.6	15.6
OTHR	Other	-	-	-	0.0	0.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 48 shows the summary of the behavior codes for the SOGI question, 'sexual orientation.' In looking at the number of exchanges for this question, only 46.9% were administered with one exchange, 18.8% were administered with two exchanges, and 25.0% were administered with three or more exchanges. Additionally, 9.4% were administered with zero exchanges, indicating that the question was

not asked or not responded to. These results point to the question potentially being burdensome for the respondent to answer and/or for the interviewer to administer.

In looking at how the 'sexual orientation' question was administered, 56.3% of the administrations were done with *exact wording*. *Minor changes* were made in 9.4% of the question administrations and 18.8% were administered with *major modifications*. Coders noted that many of the *major modifications* made by interviewers in the first exchange came from adding *additional commentary* and *transition statements*. Here is an example of *additional commentary*:

> I: How do you currently describe yourself, and this is where it gets a little uncomfortable, I know you're like what does she mean? It wants to know if you classify describe yourself as male, female, transgender, none of these? I know what to put, but I can't just <respondent interrupts>
> R: Male

Here is an example of a *transition statement* that was used:

> I: Now, we're gonna get specific. Some of the questions, their kind of having us try them out on people to see ah, to see if they should ask them or not because things are changing. How do you currently describe yourself? Are you male, female, transgender?
> R: <laughs> I'm a male

This question, along with 'sex' and 'day-to-day decisions' had the highest percentage of administrations coded as *shortcutted*, with 15.6% of the 'sexual orientation' question administrations having this code. This points to potential issues that interviewers may have with either making assumptions about respondent's answers or problems with administering the question. The coders suspect that this is because interviewers thought respondents would feel uncomfortable with the question or the interviewers themselves were uncomfortable asking the question. As with the other SOGI questions, interviewer training may be beneficial to stress the importance of asking this question.

The majority (65.6%) of the question administrations did not have any secondary codes present, 18.8% had *additional commentary* added, 2.5% had a *transition statement*, and 6.3% has the *respondent interrupt the interviewer*.

For the response options administration for 'sexual orientation', none were administered with *exact wording*, 31.3% were administered with *minor changes*, 50.0% had *major modifications*, and 18.8% were *not read and incorrectly skipped*. None of the administrations of the response options had secondary codes present.

The respondent behavior codes for 'sexual orientation' question, during the first exchange only 28.1% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 56.3% in the final response, because in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format.

During the first exchange, 9.4% *refused to answer*, which decreased to 6.3% by the final exchange. The 9.4% is the highest refusal rate for any question. An example where a respondent refused to answer is:

I: And let's see here. Which of the following best describes how you think of yourself? Ok, they've got some questions here. Um, here, gay or lesbian, straight, bisexual, none of these, I'm not sure yet, or I don't know what the question means?
R: I don't know what that has to do with farming and I am not going to answer it.
I: OK

There were cases where interviewers prefaced the SOGI questions with a *transition statement* that specifically told the respondent that they do not have to answer them. For example, before the first SOGI question, one interviewer said, "now I'm going ask you a few questions and if you if you're not comfortable answering this is a study we're doing, not comfortable answering them, you don't have to answer it for me in other words." A scripted transition statement in the CATI script may help interviewers' ease with the transition to these questions.

Other codes used during the first exchange were 15.6% provided a *qualified response*, 12.5 % for the respondent *interrupting the interviewer*, 12.5% were *requests for clarification*, and 6.3% of the responses provided were in an *incorrect format*. *Shortcutting* occurred at 15.6%, with responses not given because the question was not asked or verified, or a response was changed (See Table 48).

Although it cannot be reflected in the behavior coding findings, coders noticed that when the interviewer read the response options "I don't know yet" and "I don't know what this means," they seemed to confuse respondents.

3.3.2.5 Recommendations for the SOGI Questions

1. Emphasize the importance of asking SOGI questions, as worded, during interviewer training. Given the high amount of *shortcutting* and *did not read - verification* that occurred for the 'gender identity' and 'sex recorded at birth' questions,

2. Given the high amount of *additional commentary* and *transition statements* coded for the 'gender identity,' 'sex recorded at birth,' and 'sexual orientation' questions, a scripted transition statement should be tested (and added, pending the results of testing) prior to asking these questions. For example, "These next questions may seem obvious, but I am required to ask all questions in the survey so I don't make any assumptions about <you/the person> or <your/the> operation."

3. If SOGI questions are asked on future NASS surveys, the 'sexual orientation' question should be more thoroughly reviewed and tested, given the high amount of *shortcutting, did not read - verification*, the respondents' inability to provide a *codable answer*, and the number of *refusals*.

4. RECOMMENDATIONS

This list is a compilation of all recommendations from this project to be considered and tested, including those in the body of this report, as well as in Appendix H. Recommendations are broken out into six categories – those applicable to NASS CATI interviewing in general, disability questions, SOGI questions, introduction questions, conventional demographics questions, and producer characteristic questions.

Recommendations for NASS CATI interviewing in general (see Sections 3.1.1 and 3.1.2):

1. Work with Data Collection Center (DCC) coordinators and National Association of State Departments of Agriculture (NASDA) telephone supervisors to make questions easier to administer on the phone. This may include shortening questions, limiting the amount of include and exclude statements to read, and modifying the way questions are asked on CATI from what is asked on paper or web.

2. Similar to the recommendation #1, wherever possible, simplify questions and response options so that respondents can answer questions more easily in the first exchange with an interviewer. If needed, clarifying information and interviewer instructions can be displayed on the screen in purple text.

3. In the beginning of the CATI script, or as a lead-in to personal characteristic questions, explicitly include a screen that tells respondents that the interviewer needs to read all questions. For example, "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions and response options."

4. When a question is intentionally different between the CATI instrument and the paper questionnaire, keep documentation in the Blaise instrument so that it doesn't inadvertently get changed again to match the paper instrument.

5. For any CATI implementation, review the full survey for questions and statements that may be interpreted as duplicated. In this case, 'number of people involved in decisions' and 'day-to-day decisions' were often interpreted as the same concept. Once identified, either remove one of the questions, or provide information in both interviewer training and the CATI script to give interviewers information about how the questions are different.

6. For any CATI implementation, read questions aloud before finalizing the script. Examples include the 'number of people involved in decisions' question which had confusing include and exclude statements, and the 'land use decisions' question which had "e.g., grazing" as part of the question, making it unclear how interviewers should read it aloud. In either instance, these problems may have been identified by having one or more people read the questions aloud and providing feedback.

7. To decrease the number of exchanges, lower the rate at which respondents *interrupt the interviewer*, and lower the rate at which interviewers make *major modifications* to questions, remove instructions from the question text and include them as optional text on the interviewer screen or break up the instructions into separate questions.

8. If survey sponsors want response options read to respondents on CATI, make it clear in training, manuals, and most importantly, CATI screens, whether interviewers should read answer categories. Include Data Collection Center (DCC) coordinators and/or National Association of State Departments of Agriculture (NASDA) interviewers in discussions on how to do this, but some initial thoughts for CATI screens are to shorten questions, limit the number of answer categories, incorporate the answer categories into the question in black text, include an enumerator instruction to "read all answer categories," and break down complicated questions into separate screens.

Recommendations for disability questions (see Section 3.3.1.7):

9. Before asking disability questions, add a transition statement such as "The next questions ask about difficulties you may have doing certain activities" as recommended by the Washington Group on Disability Statistics. As indicated by the number of exchanges for the first disability question ('difficulty seeing'), respondents (and interviewers) were a bit confused with the transition to these questions.

10. After the first disability question is asked, include the wording "do you have any difficulty" in purple text as optional. Respondents seemed a bit annoyed at the repetitive nature of the questions starting with "do you have any difficulty," leading to much of the minor change coding for the questions and the relatively high percentage of times the respondent interrupted the interviewer.

11. To encourage reading the response options, at least on the first question in the series, consider implemented one of the following:
    - Use the wording "Would you say…" [Read response categories] at the end of the questions, as recommended by the Washington Group on Disability Statistics. Response options were not read for these questions most of the time. As evidenced by the large number of first exchanges coded as *incorrect format*, respondents often answered these questions with "yes" or "no" because response options were not read.
    - Move the response options into the question area of the CATI screen in black text as part of the first question.
    - Provide specific interviewer instructions in purple, for example "[ENUM] Read response options".

12. Re-word the 'difficulty with the self-care' question for CATI implementation, given that the "for example, washing all over and dressing" was not being read. For example, "Do you have difficulty with self-care? [ENUM] for example, washing all over and dressing."

13. Re-word the 'difficulty communicating' question for CATI implementation, given that the "for example, understanding or being understood" was not being read and the "usual (customary) language" component was confusing. This question may be better worded for CATI as "Using your usual language, do you have difficulty communicating? [ENUM: For example, understanding or being understood"]. This matches The Washington Group's recommended wording as of October 2022 that has "(customary)" removed.

Recommendations for SOGI questions (see Section 3.3.2.5):

14. Emphasize the importance of asking SOGI questions, as worded, during interviewer training. Given the high amount of *shortcutting* and *did not read - verification* that occurred for the 'gender identity' and 'sex recorded at birth' questions,

15. Given the high amount of *additional commentary* and *transition statements* coded for the 'gender identity,' 'sex recorded at birth,' and 'sexual orientation' questions, a scripted transition statement should be tested (and added, pending the results of testing) prior to asking these questions. For example, "These next questions may seem obvious, but I am required to ask all questions in the survey so I don't make any assumptions about <you/the person> or <your/the> operation."

16. If SOGI questions are asked on future NASS surveys, the 'sexual orientation' question should be more thoroughly reviewed and tested, given the high amount of *shortcutting, did not read - verification*, the respondents' inability to provide a *codable answer*, and the number of *refusals*.

Recommendations for introduction questions (see Appendix H):

17. Instructional statements, such as the one used in this survey (shown in Appendix H), should be thoughtfully worded, and only be read by the interviewer if they make sense in the context of the overall interview. If they are used, they need to be fully explained to both the respondent and interviewer.

18. If an instructional statement like the one used in this survey is kept, it should address the particular types of questions that will be asked to better inform respondents of types of questions they will answer, an example could be similar to the transition statement in Recommendation #3: "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions."

19. For the 'number of people involved in decisions' question, remove the include and exclude statements from the required text. In the CATI instrument, this would be done by changing the font to purple text.
    - If the survey sponsor insists on the include and exclude statements being read, there are several ways that this question could be revised to reduce confusion and respondent and interviewer burden:
        o Option 1 - Incorporate the include and exclude statement information earlier into the question stem, to come before the question is asked.
        o Option 2 - Provide specific interviewer instructions in purple, for example "[ENUM] Read include and exclude statements".

Recommendations for the conventional demographic questions (see Appendix H):

20. For the 'sex' question, if survey sponsors want interviewers to ask this question instead of making assumptions about a person's sex, we suggest emphasizing the importance of asking all questions in the instrument in interviewer training.

21. Given the high amount of *shortcutting* for the 'sex' question, a scripted transition statement could be added prior to asking demographic questions, which could explicitly tell the respondent that all questions will be asked. For example, the transition statement from Recommendation #3 (and #18): "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions."

22. Test a combined race' and 'ethnicity' question. This is currently being considered and tested at the federal government level, facilitated by the Interagency Technical Working Group on Race and Ethnicity (Statistical Policy Directive 15).

23. If the 'race' and 'ethnicity' questions are kept separate, consider adding the response options into the 'ethnicity' question, for example "Are you of Hispanic, Latino, or Spanish origin, yes or no?"

24. For the 'race' question, make is clear to interviewers and respondents that they should select all races that apply. This could be done by putting that instruction in black text in the CATI script and incorporating it into the question.

25. For the 'race' question, emphasize to interviewers that they should read all of the answer categories. This can be done by incorporating the categories into the question, such as "I am going to read you five race categories. I will then ask you which of those categories apply to you. The categories are White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Pacific Islander. Given those categories, what is your race? You may select more than one.

26. Re-word and/or re-format the 'military service' question by doing one of the following:
    - Divide the question into multiple questions: "Have you ever served in the U.S miliary?" If yes, then ask "Which of the following best describes your military service? Only on active duty for training in the Reserves or National Guard, now on active duty, or on active duty in the past, but not now?"
    - Incorporate the response options into the question.
        o Example 1: "Have you ever served on active duty in the U.S. military? Please answer one of the following: never served in the military, only on active duty for training in the U.S Armed Forces, Reserves, or National Guard, now on active duty or on active duty in the past, but not now?
        o Example 2: the question could be asked as "Which of the following best describes your miliary service? Never served in the military, only on active duty for training in the U.S Armed Forces, Reserves, or National Guard, now on active duty, or on active duty in the past, but not now?

Recommendations for the producer characteristic questions (see Appendix H):

27. Re-word (remove "majority" and "50% or more") and incorporate the response options into the 'occupation (farm or non-farm)' question to make this question easier to administer. For example, it could be re-worded to "In 2021, did you spend more of your work time farming or doing work other than farming?"

28. The 'days worked off farm' question may need to be re-worded for CATI implementation, depending on the needs of the survey sponsor.
    a. Ask a series of questions instead of one question.
        o "Did you work any days off the farm in 2021?"
        o If yes, "Did you work full time off the farm in 2021?"
        o If no, "How many days did you work off the farm in 2021? I have some categories to read to you"
    b. Make the include statements optional help text by changing the color of the font to purple. Enumerators can utilize if necessary.
        o If the survey sponsor insists that the include statements should be read to respondents, move them up before any optional text in purple (e.g. Please select one) as a further indication that the include text should be read aloud. Alternately, interviewer instructions could be added, for example "[ENUM] Read include statements".

29. Based on the number of exchanges findings, revise the questions 'year began operating ANY farm' and 'year began operating THIS farm' for CATI administration (keep them the same on paper).
    a. Add an introductory statement such as "I will now ask you two separate questions about when you started operating a farm" before asking the questions.
    b. Change the order of the questions. Ask the 'year they started operating THIS operation' first and the 'year they begin operating ANY operation' second.

30. Include an introductory statement before the 'decision-making questions.' For example, "now I will ask you some questions about the types of decisions you make for this operation. Some of these may seem redundant with topics we've already covered, but I will read each one to allow you to answer or verify the information."

31. The 'number of people involved in decisions' and 'instructional statement' were often interpreted as the same concept. Either remove one of them or provide information in both interviewer training and the CATI script to give interviewers information about how the questions are different.

32. For an interview where the respondent is the only person involved in decisions for the operation (which is known from previous questions in this section), skip the 'day to day decisions,' 'land use decisions,' and 'livestock decisions' questions, or include them as optional questions for interviewers to read (this can be done in the script by making the text purple).

33. Review all questions for readability. The phrase "e.g. grazing" is part of the 'land use decisions' question, but it is unclear how an interviewer is supposed to read that to a respondent. Recommend removing "e.g. grazing" from the CATI script or re-wording it in a way that can be more easily read aloud.

34. If previous questions show no livestock on the operation, skip the 'livestock decisions' question, or show it as optional text.

35. Consider changing the wording of the 'livestock decisions' question to "are you involved in livestock or animal decisions, including purchases, sales, breeding, and pasturing." Although not reflected in the behavior coding results, at least one interviewer seemed to be somewhat confused by the term "livestock," not knowing whether horses should be included in that term. This could be problematic for other types of animals that NASS considers livestock, but respondents may not, such as aquaculture, ostriches, rabbits, etc.

5. LIMITATIONS

There are some limitations to this research. First, the study's results are not statistically representative. Recordings were not randomly selected but instead chosen based on the location of the data collection center and operation as well as availability of the recordings for certain days. Nevertheless, survey data review shows the behavior coding records are similar to all respondents based on several characteristics.

Coders did not have access to the video recordings of the screens that CATI interviewers were seeing as they completed the interviews, so it is not clear what data were put into the instrument. Therefore, coders had to sometimes make assumptions about how an interviewer interacted with the CATI screens.

Finally, although behavior coding can identify issues with question wording and question administration in a production setting, it is it not well suited for providing information on why question wording is

problematic or if responses provided are valid. Coders were able to use their experience interviewing farm producers about survey question items, knowledge of survey methodology, mode effects, and best practices in questionnaire design to make recommendations based on the findings.

6. DISCUSSION

While the SOGI and disability questions were asked for the first time on a NASS survey on the FPS, the conventional demographic questions and producer characteristic questions have been asked for several years on the Census of Agriculture and on the Agricultural Resource Management Survey. More recently, a small number of these questions have been asked on the June Area Survey and Hemp Survey.

The behavior coding results presented in this report show mixed results when comparing the performance of SOGI questions, disability questions, conventional demographic questions, and producer characteristic questions. Different questions performed differently across interviewer behaviors, respondent behaviors for the first and last exchange, and the number of exchanges needed to obtain a codable answer. Very few questions performed negatively across all respondent and interviewer behaviors. If future NASS surveys will incorporate SOGI or disability questions, the recommendations in this report should be considered and tested to improve performance of the questions.

The conventional demographic questions and producer characteristic questions have been most commonly asked in self-administered modes on the Census of Agriculture, and few issues beyond high section nonresponse have been raised in the past. However, the findings for these questions (shown in Appendix H) show that many of them, when asked in interviewer assisted modes, are quite problematic in terms of interviewer behavior, respondent behavior, and the number of exchanges necessary to obtain a codable answer.

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Appendices

Appendix A: Washington Group short set on functioning disability questions

Appendix B: UCLA School of Law Williams Institute sexual orientation and gender identity (SOGI) questions

Appendix C: 2022 Census of Agriculture personal characteristics section

Appendix D: Paper questionnaires for all versions

Appendix E: CATI instrument screens for all versions

Appendix F: Farm Producer Study FAQs used by CATI interviewers

Appendix G: Behavior coding protocol

Appendix H: Findings and recommendations for conventional demographics and producer characteristic questions

Appendices

Washington Group on Disability Statistics

The Washington Group
Short Set on Functioning (WG-SS)

Introduction

The Washington Group Short Set on Functioning (WG-SS) was developed, tested and adopted by the Washington Group on Disability Statistics (WG). The questions reflect advances in the conceptualization of disability and use the World Health Organization's International Classification of Functioning, Disability, and Health (ICF) as a conceptual framework.

The WG-SS is intended for use in censuses and surveys. In many countries, the decennial census may be the sole or most reliable means of collecting population-based data; and because of the restrictions inherent in the census format, the module had to be short and parsimonious. The brevity of the module – six questions – makes it also well suited for inclusion in larger surveys, and for disaggregating outcome indicators by disability status.

To maximize international comparability, the WG-SS obtains information on difficulties a person may have in undertaking basic functioning activities that apply to people in all cultures and societies and of all nationalities and so are universally applicable. Given the need to keep the module short, a single question per functional domain is included. The final set of questions includes difficulties seeing, hearing, walking or climbing stairs, remembering or concentrating, self-care, and communication (expressive and receptive).

The questions are designed to collect information on the population aged 5 years and above, with a knowledgeable proxy respondent providing information for children. The WG-SS was not specifically designed for use among children, as it does not include key aspects of child development important for identifying disability in children and the wording of certain domains may not be relevant (or suitable) for children and adolescents. The WG-UNICEF Module on Child Functioning (CFM) is designed to meet the needs of identifying and measuring disability in children.

The Washington Group website [http://www.washingtongroup-disability.com/] contains supporting documentation, including information for translation, cognitive testing, question specifications and interview administration guidance, and analytic guidelines, including SPSS, SAS and STATA syntaxes.

It is important to note that each question has four response categories, which are to be read after each question.

For more information on the Washington Group on Disability Statistics, visit:
http://www.washingtongroup-disability.com/.

WG Short Set on Functioning Questions

Preamble to the WG-SS:

Note: The purpose of the introduction is to serve as a transition from questions in the census or survey instrument that deal with other subject matters to this new area of inquiry, and to focus the respondent on difficulties they may have doing basic activities.

Use of the introductory statement may not be needed in all situations, especially if including the statement may interrupt the flow of question administration.

Interviewer read: "The next questions ask about difficulties you may have doing certain activities."

VISION

VIS_SS   [Do/Does] [you/he/she] have difficulty seeing, even if wearing glasses? Would you say… [*Read response categories*]

   1. No difficulty
   2. Some difficulty
   3. A lot of difficulty
   4. Cannot do at all

HEARING

HEAR_SS   [Do/Does] [you/he/she] have difficulty hearing, even if using a hearing aid(s)? Would you say… [*Read response categories*]

   1. No difficulty
   2. Some difficulty
   3. A lot of difficulty
   4. Cannot do at all

MOBILITY

MOB_SS   [Do/Does] [you/he/she] have difficulty walking or climbing steps? Would you say… [*Read response categories*]

   1. No difficulty
   2. Some difficulty
   3. A lot of difficulty
   4. Cannot do at all

COGNITION (REMEMBERING)

COG_SS   [Do/does] [you/he/she] have difficulty remembering or concentrating? Would you say…
[*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all

SELF-CARE

SC_SS   [Do/does] [you/he/she] have difficulty with self-care, such as washing all over or
dressing? Would you say… [*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all

COMMUNICATION

COM_SS   Using [your/his/her] usual language, [do/does] [you/he/she] have difficulty
communicating, for example understanding or being understood? Would you say…
[*Read response categories*]

1. No difficulty
2. Some difficulty
3. A lot of difficulty
4. Cannot do at all

For more information on the Washington Group on Disability Statistics, visit:
http://www.washingtongroup-disability.com/.

UCLA | School of Law
Williams Institute
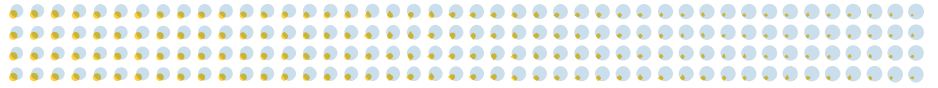
Sexual Orientation and Gender Identity (SOGI) Adult Measures Recommendations FAQs

AUTHORS
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MARCH 2020

Below we provide answers to many of the questions we receive asking us to explain our current set of recommendations (see Appendix A). These responses are based on our collective years of experience conducting empirical research with sexual and gender minority populations, including both published and unpublished studies that indicate evidence for best practices.

GENERAL QUESTIONS

What about the existing Williams Institute published reports on data collection recommendations (i.e., SMART and GenIUSS reports)? Why provide updated recommendations?

The SMART (2009) and GenIUSS (2014) reports are important resources for reviews of what was known about the measurement of sexual orientation and gender identity at the time they were published. While these reports remain useful resources, research and practice has continued to progress in this field. Efforts to generate addenda to these reports are underway. In the meantime, we offer this truncated list of SOGI items for the most commonly requested measures—measures of sexual orientation identity and gender identity for use on large-scale surveys or in administrative data collection. Those who seek measures of sexual attraction and behavior or a measure solely of transgender identity should refer to SMART (2009) and GenIUSS (2014), respectively.[1]

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[1] For SMART (2009) report, go to: https://williamsinstitute.law.ucla.edu/wp-content/uploads/SMART-FINAL-Nov-2009.pdf

Why these items?

We used several criteria for selecting the list of currently recommended ways to ask SOGI questions:

- Multiple years of use in large-scale surveys, such as the Center for Disease Control and Prevention's health surveys and the California Health Interview Survey
- Evidence of cognitive testing or other efforts to assess accuracy and nonresponse
- Balance between inclusion of most common response categories and exclusion of responses that may confuse the majority of respondents and lead to false positives

Adjustments to existing tested measures, such as the National Health Interview Survey (N-HIS) sexual orientation identity item, are often proposed by community members based on the idea of giving the community voice, better representation, or validation. However, any adjustments should be weighed against the fact that these questions have been tested with sexual and gender minorities.[2] Furthermore, around 99% of the people completing a general population survey will be cisgender and around 95% will be heterosexual, so there is risk that adjustments may confuse enough of these respondents to result in invalid data. One type of adjustment that is commonly made is to add a longer list of unique identity terms to those in the recommended questions. While it is important for respondents to find a suitable category for themselves in a survey question, categories with few people in them are often later collapsed into larger categories and sometimes are dropped from an analysis. In this case, a respondent may have had the opportunity to express their unique identity in the survey, yet their voice is taken away in the end. We strongly recommend that any adjustments to the recommended questions should be properly tested to understand the potential impact on the resulting data. Research on these measures is ongoing.

Why do questions used in general population surveys not include all the identity labels that sexual minorities actually use?

We recognize that all kinds of data can inform public policy and community action, but these recommendations are focused on the types of information collected in population-based surveys that study a sample of the entire population, not just sexual and gender minorities.

Large, population-based surveys almost always use multiple-choice questions. Another question format is fill-in-the-blank, where respondents write in their personal identity, but these are not ideal for surveys because they require recoding of each written response into a numeric value that can be used in statistical analysis. This requires the coder or analyst to make decisions on how to represent what the respondents wrote in—which means, the coder is choosing the best ways to recategorize someone's identities into usable data groups. This process can also be very time consuming, especially in studies that include a large number of responses.

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[2] Federal Interagency Working Group on Improving Measurement of Sexual Orientation and Gender Identity in Federal Surveys (October, 2016). https://nces.ed.gov/FCSM/pdf/SOGI_Research_Agenda_Final_Report_20161020.pdf

Reisner, S., Conron, K., Tardiff, L., Jarvi, S., Gordon, A., & Austin, S.B. (2014). Monitoring the health of transgender and other gender minority populations: validity of natal sex and gender identity survey items in a U.S. national cohort of young adults. BMC Public Health, 14(1), 1224.

Using multiple-choice questions in large general population studies also have some limitations. One limitation is that questions that are used to identify minorities have to be phrased in ways that all people, including people who are not members of the minority group, will understand. This is a limitation because some terms that are preferred among members of a minority group may not be well-understood outside the minority group. This can lead to serious errors in the results if people who do not understand the term assume that the term applies to them when in fact does not.

Cisgender heterosexual people are the majority, making up about 95% of the U.S. population. If a population-based survey asks a question about respondents' sexual orientation or gender identity and even a small percentage of cisgender heterosexual people answer incorrectly, that survey would miscount the true number of sexual and gender minorities and flood those categories with those who should not be included. For example, if a researcher asked a random sample of people in the general population if they are "asexual" and those people think that "asexual" means being celibate, the researcher will end up with many more people under this category than they actually intended to count. Survey researchers describe this as a problem of misclassification and including people in a group that they don't really belong to is described as having "false positives." Questions that yield a lot of false positives cannot be used for surveys if we want the results to be accurate and useful to policymakers.

The questions we recommend are those that have been tested and deemed to be widely understood in the U.S., so that people answer them accurately. Although the questions and answer options may not be ideal in capturing the full diversity of identities among sexual and gender minorities, these recommendations reflect the current best questions to identify sexual and gender minorities among the general population that will generate usable and useful data.

Why are there two sets of questions for each area (SO and GI)?

We included questions for interviewer-administered surveys and surveys where the respondents answer the questions themselves on a web survey or on paper (i.e., a self-administered survey). The way questions are asked and the responses are recorded differ for each mode of data collection. Interviewer-administered questions are phrased in a way to make the questions easy for an interviewer to read aloud and a respondent to understand and answer audibly. For instance, a long, complex survey question with many answer options might confuse a respondent listening to the question. Self-administered surveys are slightly different in that they allow the respondent to read the question and answer options at their own pace and they can refer back to the question and answer options as needed.

QUESTIONS ABOUT MEASURING SEXUAL ORIENTATION

Why aren't "queer," "pansexual," "asexual" and other identities also listed?

To date, no cognitive testing and no assessment of errors has been conducted to test whether adding a broader variety of terms describing non-heterosexual identities create confusion to respondents that can add to errors in the data. For instance, there could be problems with data accuracy due to heterosexual people not understanding the terms and mistakenly selecting them. For example, the term "same-gender loving or SGL" is used by a minority of Black sexual minorities but may be misunderstood and mistakenly selected by people who do not actually identify as SGL but are not familiar with the term. This will inflate the number of people counted as SGL and, depending on the type of survey, mask any disparities in health and well-being when compared to heterosexual

people. Also, while terms like "queer" are actually used by many non-heterosexual people, the term's meaning varies greatly, including whether it refers to sexuality, gender expression and identity, a political statement of alliance with LGBT causes, or all of the above.

Similarly, people use asexual as a sexual orientation identity but it is also confused in the general public with the concept of simply not being sexual active at the time or being celibate, which is different from what this identity label is supposed to capture in the context of sexual minority identities.

Although, as we say above, providing respondents a write-in option is not ideal (i.e., it creates coding issues and sometimes unusable data), we recommend including that in addition to standard response options as the field continues to explore how many people use various labels (particularly, queer, non-binary, pansexual) and to serve as a foundation for survey development testing efforts. The strategy of including a write-in is particularly important when the survey will be analyzed to inform future iterations of the question.

QUESTIONS ABOUT MEASURING GENDER IDENTITY

Why not include an option for "transgender man" and "transgender woman" for the gender identity question?

We recommend the 2-step version of gender identity because it captures anyone whose gender identity is different from their sex assigned at birth, treating "transgender" as both a social status and an identity. Using this approach avoids the need for terms like Trans man and Trans woman, which are not universally understood.

Why not ask about current gender identity first?

We recognize that the question asking sex assigned at birth may be an uncomfortable question for some respondents. Sometimes, community advocates and researchers put the gender identity question first in order to affirm a respondent's gender identity before asking sex assigned at birth. However, we recommend, until further testing can be conducted, that surveys ask sex assigned at birth first then gender identity, which is the order that has been tested and used on large scale surveys.

One concern about changing the order is that research shows that many transgender respondents will answer standard binary sex questions (those with male/female options only) and a more expanded gender list according to their sex assigned at birth. Others will answer according to their gender identity. If the gender identity item comes first in the two-step measure, transgender respondents may select their sex assigned at birth, especially if it is unclear that a question about sex assigned at birth will also be asked. Those who answer according to their sex assigned at birth would then be categorized as cisgender in the two-step.[3] We recommend asking the sex assigned

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[3] Schilt, K. & Bratter, J. (2015). From multiracial to transgender? Assessing Attitudes toward expanding gender options on the US Census. Transgender Studies Quarterly, 2(1), 77-100.

Herman, J.L., Becker, T., Reisner, R., Krueger, E., Hughes, T., Meyer, I.H., Bockting, W., & Wilson, B.D.M (2018, November 13). "Male" and "female" is not enough: Replacing the standard binary gender question on population-based surveys. Paper presented by J.L. Herman at the Annual Meeting of the American Public Health Association, San Diego, CA.

Herman, J.L. (2018, June 11). Identifying Gender Minorities in U.S. Population-based Surveys: Current Measurement Research with the

at birth question first because it is most clear about the context it is referring to (i.e., original birth certificate), for transgender and cisgender respondents alike.

This is why we disagree with some of our colleagues' untested assertion that flipping the order improves data collection. We are also wary about the assumption that flipping the order will inherently improve people's comfort levels or communicate greater respect. That is, it is entirely possible that asking people to describe their current gender identity, and then asking about their sex assigned at birth gives the impression that the latter response is seen as more valid. For now, we recommend using the format that has been tested more recently and is used in some large-scale surveys, but acknowledge this is an important area to keep exploring and studying.

APPENDIX A

SEXUAL IDENTITY

Interviewer Administered

Do you think of yourself as gay or lesbian; straight, that is, not gay or lesbian; bisexual; something else; or you don't know the answer?

1	Gay or lesbian
2	Straight, that is, not gay or lesbian
3	Bisexual
4	Something else
5	I am not sure yet
7	Refused
9	I Don't Know what this question means

[If something else] **What do you mean by something else?** _____ (write-in)

Self-Administered

Which of the following best represents how you think of yourself?

1	Gay or lesbian
2	Straight, that is, not gay or lesbian
3	Bisexual
4	Something else
5	I am not sure yet
7	Refused
9	I Don't Know what this question means

[If something else] **What do you mean by something else?** _____ (write-in)

GENDER IDENTITY

Interviewer Administered

On your original birth certificate, was your sex assigned as male or female?

1. Male

2. Female

Do you currently describe yourself as male, female, or transgender?

1. Male

2. Female

3. Transgender

4. None of these

[If none of these] What is your current gender identity? _____ (text)

Self-Administered

What sex were you assigned at birth, on your original birth certificate?

1. Male

2. Female

How do you currently describe yourself?

1. Male

2. Female

3. Transgender

4. None of these

Confirmation Question
(for interview administered and self-administered if programmed online)

Just to confirm, you were assigned [RESPONSE] at birth and currently describe yourself as [GENDER RESPONSE]. Is that correct?

1. Yes, that is correct

2. No

SECTION 8	PERSONAL CHARACTERISTICS

1. In 2022, how many men and women were involved in decisions for this operation (include family members and hired managers)? Exclude hired workers unless they were a hired manager or family member. 1571

Men	Women
1571	1574

2. Answer the following questions for up to four individuals who were involved in the decisions for this operation as of **December 31, 2022.**

	Person 1	Person 2	Person 3	Person 4
a. Full name	1836	1852	1872	1873
b. Sex	1926 1 ☐ Male 2 ☐ Female	1586 1 ☐ Male 2 ☐ Female	1597 1 ☐ Male 2 ☐ Female	1614 1 ☐ Male 2 ☐ Female
c. What was this person's age on December 31, 2022?	1925 ___ age	1585 ___ age	1596 ___ age	1615 ___ age
d. Is this person of Hispanic, Latino, or Spanish origin?	Hispanic, Latino, or Spanish origin 1927 1 ☐ Yes 3 ☐ No	Hispanic, Latino, or Spanish origin 1587 1 ☐ Yes 3 ☐ No	Hispanic, Latino, or Spanish origin 1598 1 ☐ Yes 3 ☐ No	Hispanic, Latino, or Spanish origin 1622 1 ☐ Yes 3 ☐ No
e. Race	**Mark one or more.** 2701 ☐ White 2702 ☐ Black or African American 2703 ☐ American Indian or Alaska Native. Specify tribe ✎ 2733 [____] 2705 ☐ Asian 2704 ☐ Native Hawaiian or Other Pacific Islander	**Mark one or more.** 1801 ☐ White 1802 ☐ Black or African American 1803 ☐ American Indian or Alaska Native. Specify tribe ✎ 1833 [____] 1805 ☐ Asian 1804 ☐ Native Hawaiian or Other Pacific Islander	**Mark one or more.** 1901 ☐ White 1902 ☐ Black or African American 1903 ☐ American Indian or Alaska Native. Specify tribe ✎ 1933 [____] 1905 ☐ Asian 1904 ☐ Native Hawaiian or Other Pacific Islander	**Mark one or more.** 1616 ☐ White 1617 ☐ Black or African American 1618 ☐ American Indian or Alaska Native. Specify tribe ✎ 1619 [____] 1620 ☐ Asian 1621 ☐ Native Hawaiian or Other Pacific Islander
f. At which occupation did this person spend the majority (50 percent or more) of his/her worktime in 2022?.	1928 **Mark one.** 1 ☐ Farm or ranch work 2 ☐ Work other than farming or ranching	1580 **Mark one.** 1 ☐ Farm or ranch work 2 ☐ Work other than farming or ranching	1591 **Mark one.** 1 ☐ Farm or ranch work 2 ☐ Work other than farming or ranching	1623 **Mark one.** 1 ☐ Farm or ranch work 2 ☐ Work other than farming or ranching
g. Is this person retired from farming or ranching?	1924 1 ☐ Yes 3 ☐ No	1582 1 ☐ Yes 3 ☐ No	1593 1 ☐ Yes 3 ☐ No	1624 1 ☐ Yes 3 ☐ No
h. How many days did this person work off the farm in 2022? Include days in which the person worked at least four hours per day in an off-farm job. Include work on someone else's farm for pay	1929 **Mark one.** 1 ☐ None 2 ☐ 1 - 49 days 3 ☐ 50 - 99 days 4 ☐ 100 - 199 days 5 ☐ 200 days or more	1831 **Mark one.** 1 ☐ None 2 ☐ 1 - 49 days 3 ☐ 50 - 99 days 4 ☐ 100 - 199 days 5 ☐ 200 days or more	1931 **Mark one.** 1 ☐ None 2 ☐ 1 - 49 days 3 ☐ 50 - 99 days 4 ☐ 100 - 199 days 5 ☐ 200 days or more	1625 **Mark one.** 1 ☐ None 2 ☐ 1 - 49 days 3 ☐ 50 - 99 days 4 ☐ 100 - 199 days 5 ☐ 200 days or more

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SECTION 8 — CONTINUED –

	Person 1, continued	Person 2, continued	Person 3, continued	Person 4, continued
i. Did this person live on this operation at any time in 2022?	1923 — 1 ☐ Yes 3 ☐ No	1581 — 1 ☐ Yes 3 ☐ No	1592 — 1 ☐ Yes 3 ☐ No	1626 — 1 ☐ Yes 3 ☐ No
j. In what year did this person begin to operate any part of **THIS** operation?	1930 ⬚	1584 ⬚	1595 ⬚	1627 ⬚
k. In what year did this person begin to operate **ANY** farm operation?.........	2834 ⬚	1851 ⬚	1871 ⬚	1628 ⬚
l. Has this person ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?	1633 **Mark one.** 1 ☐ Never served in the military 2 ☐ Only on active duty for training in the Reserves or National Guard 3 ☐ Now on active duty 4 ☐ On active duty in the past, but not now	1634 **Mark one.** 1 ☐ Never served in the military 2 ☐ Only on active duty for training in the Reserves or National Guard 3 ☐ Now on active duty 4 ☐ On active duty in the past, but not now	1635 **Mark one.** 1 ☐ Never served in the military 2 ☐ Only on active duty for training in the Reserves or National Guard 3 ☐ Now on active duty 4 ☐ On active duty in the past, but not now	1636 **Mark one.** 1 ☐ Never served in the military 2 ☐ Only on active duty for training in the Reserves or National Guard 3 ☐ Now on active duty 4 ☐ On active duty in the past, but not now
m. How many people lived in this person's household in 2022?..	Number living in household of Person 1 2577 ⬚ number	Number living in household of Person 2. Enter "0" if Person 2 was counted in the previous column. 1589 ⬚ number	Number living in household of Person 3. Enter "0" if Person 3 was counted in a previous column. 1600 ⬚ number	Number living in household of Person 4. Enter "0" if Person 4 was counted in a previous column. 1637 ⬚ number
n. Was this person hired and paid a salary or wages to manage this operation?	2576 — 1 ☐ Yes 3 ☐ No	1588 — 1 ☐ Yes 3 ☐ No	1599 — 1 ☐ Yes 3 ☐ No	1641 — 1 ☐ Yes 3 ☐ No

3. Was this person involved in these specific decisions as of **December 31, 2022**? For each person and for each item, **mark all that apply**.

	Person 1	Person 2	Person 3	Person 4
a. Day-to-day decisions	1642 — 1 ☐	1643 — 1 ☐	1644 — 1 ☐	1645 — 1 ☐
b. Land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing	1650 — 1 ☐	1651 — 1 ☐	1652 — 1 ☐	1653 — 1 ☐
c. Livestock decisions, including purchases, sales, breeding, and pasturing.........	1654 — 1 ☐	1655 — 1 ☐	1656 — 1 ☐	1657 — 1 ☐
d. Marketing decisions..	1687 — 1 ☐	1688 — 1 ☐	1689 — 1 ☐	1690 — 1 ☐
e. Record keeping and/or financial management.......	1776 — 1 ☐	1777 — 1 ☐	1778 — 1 ☐	1779 — 1 ☐
f. Estate planning or succession planning..	1757 — 1 ☐	1758 — 1 ☐	1759 — 1 ☐	1760 — 1 ☐

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2021 FARM PRODUCER STUDY

Appendix D: Paper Questionnaires

Version 1

USDA

United States Department of Agriculture

NATIONAL AGRICULTURAL STATISTICS SERVICE

Please make corrections to name, address, and ZIP Code, if necessary.

Acreage in 2021

Include the farmstead, all cropland, ponds, woodland, pastureland, wasteland, and land that is in government programs.

	Mark "X" if None		Acres
1. In 2021, how many acres are:			
a. Owned?..	☐	0043	
b. Rented or leased **from** others, or used rent free? (Exclude land used on an animal unit month (AUM) basis.)........................	☐	0044	
c. Rented or leased **to** others?...	☐	0045	
2. **Total acres operated in 2021**: [Items 1a + 1b – 1c]?...		0046	

3. Please classify this operation in terms of the gross value of sales and government agricultural payments in 2021.

      INCLUDE:
- sales of all crops, livestock, poultry, and livestock products (milk, eggs, etc.) sold in 2021
- value of hay, silage, and other crops harvested in 2021, but not sold
- value of all crops, livestock, and poultry produced under contract in 2021
- landlord's share of government payments and crops sold in 2021

      EXCLUDE dollars received on land rented to others.

0201
- 2 ☐ 'None' this year
- 3 ☐ $1 - $999
- 4 ☐ $1,000 - $2,499
- 5 ☐ $2,500 - $4,999
- 6 ☐ $5,000 - $9,999
- 7 ☐ $10,000 - $24,999
- 8 ☐ $25,000 - $49,999
- 9 ☐ $50,000 - $99,999
- 10 ☐ $100,000 - $149,999
- 11 ☐ $150,000 - $249,999
- 12 ☐ $250,000 - $349,999
- 13 ☐ $350,000 - $499,999
- 14 ☐ $500,000 - $999,999
- 15 ☐ $1,000,000 and over

4. Which of these categories represents the largest portion of the total gross value of sales in 2021 for this operation?

0862
- 1 ☐ **Grains, Oilseeds, Dry Beans, and Dry Peas**
  (corn, flaxseed, grain silage and forage, grains and oilseeds, popcorn, rice, small grains, sorghum, soybeans, sunflowers, straw, etc.)

- 2 ☐ **Tobacco**

- 3 ☐ **Cotton and Cottonseed**

- 4 ☐ **Vegetables, Melons, Potatoes, and Sweet Potatoes**
  (beets, cabbage, cantaloupes, pumpkins, sweet corn, tomatoes, watermelons, vegetable seeds, etc.)

- 5 ☐ **Fruit, Tree Nuts, and Berries**
  (almonds, apples, blueberries, cherries, grapes, hazelnuts, kiwifruit, oranges, pears, pecans, strawberries, walnuts, etc.)

- 6 ☐ **Nursery, Greenhouse, Floriculture, and Sod**
  (bedding plants, bulbs, cut flowers, flower seeds, foliage plants, mushrooms, nursery potted plants, shrubbery, sod, etc.)

- 7 ☐ **Cut Christmas Trees and Short Rotation Woody Crops**

- 8 ☐ **Other Crops, Hay, CRP, and Pasture**
  (grass seed, hops, maple syrup, mint, peanuts, sugarcane, sugarbeets, etc.)

- 9 ☐ **Hogs and Pigs**

- 10 ☐ **Milk and Other Dairy Products (from cows)**

- 11 ☐ **Cattle and Calves**

- 12 ☐ **Sheep, Goats, and their Products**
  (wool, mohair, milk, cheese, etc.)

- 13 ☐ **Horses, Ponies, Mules, Burros, and Donkeys**

- 14 ☐ **Poultry and Eggs**
  (broilers, chickens, turkeys, ducks, eggs, emus, geese, hatchlings, ostriches, pigeons, pheasants, quail, poultry products, etc.)

- 15 ☐ **Aquaculture**
  (catfish, trout, ornamental and other fish, mollusks, crustaceans, etc.)

- 16 ☐ **Other Animals and Other Animal Products**
  (honey bees, honey, rabbits, fur-bearing animals, semen, manure, other animal specialties, etc.)

Personal Characteristics

5. In 2021, how many people were involved in decisions for this operation?   Number
   (Include family members and hired managers. Exclude hired workers unless they were   2000 ☐
   a hired manager or family member.)..

6. The following questions should be answered by a person involved in decisions for this operation.

   a. What was your age on December 31, 2021?...   2001 ☐

   b. Are you of Hispanic, Latino, or Spanish origin?

      2002
      ₁ ☐ Yes
      ₃ ☐ No

   c. What is your race? Select all that apply.

      2003   ☐ White

      2004   ☐ Black or African American

      2005   ☐ American Indian or Alaska Native

                    2006
           Specify tribe: ☐

      2007   ☐ Asian

      2008   ☐ Native Hawaiian or Other Pacific Islander

   d. What is your sex?

      2009
      ₁ ☐ Male
      ₂ ☐ Female

   e. At which occupation did you spend the majority (50% or more) of your work time in 2021? Select one.

      2010
      ₁ ☐ Farm or ranch work
      ₂ ☐ Work other than farming or ranching

   f. How many days did you work off the farm in 2021? Select one.
      Include days in which you worked at least four hours per day in an off-farm job.
      Include work on someone else's farm for pay.

      2011
      ₁ ☐ None
      ₂ ☐ 1 - 49 days
      ₃ ☐ 50 - 99 days
      ₄ ☐ 100 - 199 days
      ₅ ☐ 200 days or more

g. In what year did you begin to operate ANY farm operation?.. 2012 [ ]

h. In what year did you begin to operate any part of THIS operation?... 2013 [ ]

i. Are you involved in making day-to-day decisions for this operation?
2014
₁ ☐ Yes
₃ ☐ No

j. Are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?
2015
₁ ☐ Yes
₃ ☐ No

k. Are you involved in livestock decisions, including purchases, sales, breeding, and pasturing?
2016
₁ ☐ Yes
₃ ☐ No

l. Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard? Select one.
2017
₁ ☐ Never served in the military
₂ ☐ Only on active duty for training in the Reserves or National Guard
₃ ☐ Now on active duty
₄ ☐ On active duty in the past, but not now

m. What is the highest level of formal education you have achieved? Select one.
2018
₁ ☐ Less than high school diploma
₂ ☐ High school
₃ ☐ Some college (Include associates degree)
₄ ☐ Four-year college graduate or beyond

Respondent Name:	Date:			
9912	9910	MM	DD	YY
		——	——	——

Respondent Email:	Respondent Phone:	
1095	9911 (____) _____	check if cell phone ☐

Operation Email (if different from above):	Operation Phone (if different from above):	
9937	9936 (____) _____	check if cell phone ☐

Please return this form in the postage-paid envelope provided. Thank you for your cooperation.

2021 FARM PRODUCER STUDY

Version 2

USDA **United States Department of Agriculture**

NATIONAL AGRICULTURAL STATISTICS SERVICE

Please make corrections to name, address, and ZIP Code, if necessary.

Acreage in 2021

Include the farmstead, all cropland, ponds, woodland, pastureland, wasteland, and land that is in government programs.

1. In 2021, how many acres are:

    Mark "X" if None | Acres

    a. Owned?.. ☐ 0043 ☐

    b. Rented or leased **from** others, or used rent free?
        (Exclude land used on an animal unit month (AUM) basis.)........................ ☐ 0044

    c. Rented or leased **to** others?... ☐ 0045

2. **Total acres operated in 2021**: [Items 1a + 1b − 1c]?.. 0046

3. Please classify this operation in terms of the gross value of sales and government agricultural payments in 2021.

   INCLUDE:
   - sales of all crops, livestock, poultry, and livestock products (milk, eggs, etc.) sold in 2021
   - value of hay, silage, and other crops harvested in 2021, but not sold
   - value of all crops, livestock, and poultry produced under contract in 2021
   - landlord's share of government payments and crops sold in 2021

   EXCLUDE dollars received on land rented to others.

0201
- 2 ☐ 'None' this year
- 3 ☐ $1 - $999
- 4 ☐ $1,000 - $2,499
- 5 ☐ $2,500 - $4,999
- 6 ☐ $5,000 - $9,999
- 7 ☐ $10,000 - $24,999
- 8 ☐ $25,000 - $49,999
- 9 ☐ $50,000 - $99,999
- 10 ☐ $100,000 - $149,999
- 11 ☐ $150,000 - $249,999
- 12 ☐ $250,000 - $349,999
- 13 ☐ $350,000 - $499,999
- 14 ☐ $500,000 - $999,999
- 15 ☐ $1,000,000 and over

4. Which of these categories represents the largest portion of the total gross value of sales in 2021 for this operation?

0862
- 1 ☐ **Grains, Oilseeds, Dry Beans, and Dry Peas**
  (corn, flaxseed, grain silage and forage, grains and oilseeds, popcorn, rice, small grains, sorghum, soybeans, sunflowers, straw, etc.)

- 2 ☐ **Tobacco**

- 3 ☐ **Cotton and Cottonseed**

- 4 ☐ **Vegetables, Melons, Potatoes, and Sweet Potatoes**
  (beets, cabbage, cantaloupes, pumpkins, sweet corn, tomatoes, watermelons, vegetable seeds, etc.)

- 5 ☐ **Fruit, Tree Nuts, and Berries**
  (almonds, apples, blueberries, cherries, grapes, hazelnuts, kiwifruit, oranges, pears, pecans, strawberries, walnuts, etc.)

- 6 ☐ **Nursery, Greenhouse, Floriculture, and Sod**
  (bedding plants, bulbs, cut flowers, flower seeds, foliage plants, mushrooms, nursery potted plants, shrubbery, sod, etc.)

- 7 ☐ **Cut Christmas Trees and Short Rotation Woody Crops**

- 8 ☐ **Other Crops, Hay, CRP, and Pasture**
  (grass seed, hops, maple syrup, mint, peanuts, sugarcane, sugarbeets, etc.)

- 9 ☐ **Hogs and Pigs**

- 10 ☐ **Milk and Other Dairy Products (from cows)**

- 11 ☐ **Cattle and Calves**

- 12 ☐ **Sheep, Goats, and their Products**
  (wool, mohair, milk, cheese, etc.)

- 13 ☐ **Horses, Ponies, Mules, Burros, and Donkeys**

- 14 ☐ **Poultry and Eggs**
  (broilers, chickens, turkeys, ducks, eggs, emus, geese, hatchlings, ostriches, pigeons, pheasants, quail, poultry products, etc.)

- 15 ☐ **Aquaculture**
  (catfish, trout, ornamental and other fish, mollusks, crustaceans, etc.)

- 16 ☐ **Other Animals and Other Animal Products**
  (honey bees, honey, rabbits, fur-bearing animals, semen, manure, other animal specialties, etc.)

Personal Characteristics

5. In 2021, how many people were involved in decisions for this operation?   Number
    (Include family members and hired managers. Exclude hired workers unless they were   2000
    a hired manager or family member.)..

6. The following questions should be answered by a person involved in decisions for this operation.

    2001

    a. What was your age on December 31, 2021?...

    b. Are you of Hispanic, Latino, or Spanish origin?
        2002
             1 ☐ Yes
             3 ☐ No

    c. What is your race? Select all that apply.

        2003   ☐ White

        2004   ☐ Black or African American

        2005   ☐ American Indian or Alaska Native

                       2006
           Specify tribe:

        2007   ☐ Asian

        2008   ☐ Native Hawaiian or Other Pacific Islander

    d. What is your sex?
        2009
             1 ☐ Male
             2 ☐ Female

    e. At which occupation did you spend the majority (50% or more) of your work time in 2021? Select one.
        2010
             1 ☐ Farm or ranch work
             2 ☐ Work other than farming or ranching

    f. How many days did you work off the farm in 2021? Select one.
        Include days in which you worked at least four hours per day in an off-farm job.
        Include work on someone else's farm for pay.
        2011
             1 ☐ None
             2 ☐ 1 - 49 days
             3 ☐ 50 - 99 days
             4 ☐ 100 - 199 days
             5 ☐ 200 days or more

g. Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard? Select one.

2017
1 ☐ Never served in the military

2 ☐ Only on active duty for training in the Reserves or National Guard

3 ☐ Now on active duty

4 ☐ On active duty in the past, but not now

h. What is the highest level of formal education you have achieved? Select one.

2018
1 ☐ Less than high school diploma

2 ☐ High school

3 ☐ Some college (Include associates degree)

4 ☐ Four-year college graduate or beyond

i. Do you have difficulty seeing, even if wearing glasses?

2019
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

j. Do you have difficulty hearing, even if using a hearing aid?

2020
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

k. Do you have difficulty walking or climbing steps?

2021
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

l. Do you have difficulty remembering or concentrating?

2022
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

m. Do you have difficulty with self-care, for example, washing all over or dressing?

2023
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

n. Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

2024
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

Respondent Name:		Date:			
9912		9910	MM	DD	YY
			——	——	——

Respondent Email:	Respondent Phone:	
1095	9911 (____) _____	check if cell phone ☐

Operation Email (if different from above):	Operation Phone (if different from above):	
9937	9936 (____) _____	check if cell phone ☐

Please return this form in the postage-paid envelope provided. Thank you for your cooperation.

2021 FARM PRODUCER STUDY

Version 3

USDA **United States Department of Agriculture**

NATIONAL AGRICULTURAL STATISTICS SERVICE

Please make corrections to name, address, and ZIP Code, if necessary.

Acreage in 2021

Include the farmstead, all cropland, ponds, woodland, pastureland, wasteland, and land that is in government programs.

1. In 2021, how many acres are:

		Mark "X" if None		Acres
a.	Owned?..	☐	0043	
b.	Rented or leased **from** others, or used rent free? (Exclude land used on an animal unit month (AUM) basis.)........................	☐	0044	
c.	Rented or leased **to** others?..	☐	0045	

2. **Total acres operated in 2021**: [Items 1a + 1b – 1c]?.. 0046

3. Please classify this operation in terms of the gross value of sales and government agricultural payments in 2021.

    INCLUDE:
- sales of all crops, livestock, poultry, and livestock products (milk, eggs, etc.) sold in 2021
- value of hay, silage, and other crops harvested in 2021, but not sold
- value of all crops, livestock, and poultry produced under contract in 2021
- landlord's share of government payments and crops sold in 2021

    EXCLUDE dollars received on land rented to others.

0201

- 2 ☐ 'None' this year
- 3 ☐ $1 - $999
- 4 ☐ $1,000 - $2,499
- 5 ☐ $2,500 - $4,999
- 6 ☐ $5,000 - $9,999
- 7 ☐ $10,000 - $24,999
- 8 ☐ $25,000 - $49,999
- 9 ☐ $50,000 - $99,999
- 10 ☐ $100,000 - $149,999
- 11 ☐ $150,000 - $249,999
- 12 ☐ $250,000 - $349,999
- 13 ☐ $350,000 - $499,999
- 14 ☐ $500,000 - $999,999
- 15 ☐ $1,000,000 and over

4. Which of these categories represents the largest portion of the total gross value of sales in 2021 for this operation?

0862

- 1 ☐ **Grains, Oilseeds, Dry Beans, and Dry Peas**
(corn, flaxseed, grain silage and forage, grains and oilseeds, popcorn, rice, small grains, sorghum, soybeans, sunflowers, straw, etc.)

- 2 ☐ **Tobacco**

- 3 ☐ **Cotton and Cottonseed**

- 4 ☐ **Vegetables, Melons, Potatoes, and Sweet Potatoes**
(beets, cabbage, cantaloupes, pumpkins, sweet corn, tomatoes, watermelons, vegetable seeds, etc.)

- 5 ☐ **Fruit, Tree Nuts, and Berries**
(almonds, apples, blueberries, cherries, grapes, hazelnuts, kiwifruit, oranges, pears, pecans, strawberries, walnuts, etc.)

- 6 ☐ **Nursery, Greenhouse, Floriculture, and Sod**
(bedding plants, bulbs, cut flowers, flower seeds, foliage plants, mushrooms, nursery potted plants, shrubbery, sod, etc.)

- 7 ☐ **Cut Christmas Trees and Short Rotation Woody Crops**

- 8 ☐ **Other Crops, Hay, CRP, and Pasture**
(grass seed, hops, maple syrup, mint, peanuts, sugarcane, sugarbeets, etc.)

- 9 ☐ **Hogs and Pigs**

- 10 ☐ **Milk and Other Dairy Products (from cows)**

- 11 ☐ **Cattle and Calves**

- 12 ☐ **Sheep, Goats, and their Products**
(wool, mohair, milk, cheese, etc.)

- 13 ☐ **Horses, Ponies, Mules, Burros, and Donkeys**

- 14 ☐ **Poultry and Eggs**
(broilers, chickens, turkeys, ducks, eggs, emus, geese, hatchlings, ostriches, pigeons, pheasants, quail, poultry products, etc.)

- 15 ☐ **Aquaculture**
(catfish, trout, ornamental and other fish, mollusks, crustaceans, etc.)

- 16 ☐ **Other Animals and Other Animal Products**
(honey bees, honey, rabbits, fur-bearing animals, semen, manure, other animal specialties, etc.)

Personal Characteristics

5. In 2021, how many people were involved in decisions for this operation?
    (Include family members and hired managers. Exclude hired workers unless they were
    a hired manager or family member.)..

    Number

    2000 [   ]

6. The following questions should be answered by a person involved in decisions for this operation.

    a. What was your age on December 31, 2021?... 2001 [   ]

    b. Are you of Hispanic, Latino, or Spanish origin?

    2002
    1 ☐ Yes
    3 ☐ No

    c. What is your race? Select all that apply.

    2003 ☐ White

    2004 ☐ Black or African American

    2005 ☐ American Indian or Alaska Native

    Specify tribe: 2006 [   ]

    2007 ☐ Asian

    2008 ☐ Native Hawaiian or Other Pacific Islander

    d. How do you currently describe yourself?

    2025
    1 ☐ Male
    2 ☐ Female
    3 ☐ Transgender
    4 ☐ None of these, specify: 2026 [   ]

    e. Was your sex recorded as male or female at birth?

    2027
    1 ☐ Male
    2 ☐ Female

    f. Which of the following best represents how you think of yourself?

    2028 ☐ Gay or lesbian

    2029 ☐ Straight, that is, not gay or lesbian

    2030 ☐ Bisexual

    2031 ☐ None of these, specify: 2032 [   ]

    2033 ☐ I am not sure yet

    2034 ☐ I don't know what this question means

g. In what year did you begin to operate ANY farm operation?... 2012 [ ]

h. In what year did you begin to operate any part of THIS operation?.................................... 2013 [ ]

i. Are you involved in making day-to-day decisions for this operation?

2014
1 [ ] Yes
3 [ ] No

j. Are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?

2015
1 [ ] Yes
3 [ ] No

k. Are you involved in livestock decisions, including purchases, sales, breeding, and pasturing?

2016
1 [ ] Yes
3 [ ] No

l. Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard? Select one.

2017
1 [ ] Never served in the military
2 [ ] Only on active duty for training in the Reserves or National Guard
3 [ ] Now on active duty
4 [ ] On active duty in the past, but not now

m. What is the highest level of formal education you have achieved? Select one.

2018
1 [ ] Less than high school diploma
2 [ ] High school
3 [ ] Some college (Include associates degree)
4 [ ] Four-year college graduate or beyond

Respondent Name:		Date:			
9912		9910	MM	DD	YY
			__ __	__ __	__ __

Respondent Email:	Respondent Phone:
1095	9911 (____) _____ check if cell phone [ ]

Operation Email (if different from above):	Operation Phone (if different from above):
9937	9936 (____) _____ check if cell phone [ ]

Please return this form in the postage-paid envelope provided. Thank you for your cooperation.

2021 FARM PRODUCER STUDY

Version 4

USDA **United States**
Department of
Agriculture

NATIONAL
AGRICULTURAL
STATISTICS
SERVICE

Please make corrections to name, address, and ZIP Code, if necessary.

Acreage in 2021

Include the farmstead, all cropland, ponds, woodland, pastureland, wasteland, and land that is in government programs.

1. In 2021, how many acres are:

Mark "X" if None | Acres

a. Owned?... ☐ 0043 [   ]

b. Rented or leased **from** others, or used rent free?
    (Exclude land used on an animal unit month (AUM) basis.)........................ ☐ 0044 [   ]

c. Rented or leased **to** others?... ☐ 0045 [   ]

2. **Total acres operated in 2021**: [Items 1a + 1b – 1c]?.. 0046 [   ]

3. Please classify this operation in terms of the gross value of sales and government agricultural payments in 2021.

    INCLUDE:
- sales of all crops, livestock, poultry, and livestock products (milk, eggs, etc.) sold in 2021
- value of hay, silage, and other crops harvested in 2021, but not sold
- value of all crops, livestock, and poultry produced under contract in 2021
- landlord's share of government payments and crops sold in 2021

    EXCLUDE dollars received on land rented to others.

0201

2 ☐ 'None' this year	3 ☐ $1 - $999	4 ☐ $1,000 - $2,499	5 ☐ $2,500 - $4,999
6 ☐ $5,000 - $9,999	7 ☐ $10,000 - $24,999	8 ☐ $25,000 - $49,999	9 ☐ $50,000 - $99,999
10 ☐ $100,000 - $149,999	11 ☐ $150,000 - $249,999	12 ☐ $250,000 - $349,999	13 ☐ $350,000 - $499,999
14 ☐ $500,000 - $999,999	15 ☐ $1,000,000 and over		

4. Which of these categories represents the largest portion of the total gross value of sales in 2021 for this operation?

0862

1 ☐ **Grains, Oilseeds, Dry Beans, and Dry Peas**
(corn, flaxseed, grain silage and forage, grains and oilseeds, popcorn, rice, small grains, sorghum, soybeans, sunflowers, straw, etc.)

2 ☐ **Tobacco**

3 ☐ **Cotton and Cottonseed**

4 ☐ **Vegetables, Melons, Potatoes, and Sweet Potatoes**
(beets, cabbage, cantaloupes, pumpkins, sweet corn, tomatoes, watermelons, vegetable seeds, etc.)

5 ☐ **Fruit, Tree Nuts, and Berries**
(almonds, apples, blueberries, cherries, grapes, hazelnuts, kiwifruit, oranges, pears, pecans, strawberries, walnuts, etc.)

6 ☐ **Nursery, Greenhouse, Floriculture, and Sod**
(bedding plants, bulbs, cut flowers, flower seeds, foliage plants, mushrooms, nursery potted plants, shrubbery, sod, etc.)

7 ☐ **Cut Christmas Trees and Short Rotation Woody Crops**

8 ☐ **Other Crops, Hay, CRP, and Pasture**
(grass seed, hops, maple syrup, mint, peanuts, sugarcane, sugarbeets, etc.)

9 ☐ **Hogs and Pigs**

10 ☐ **Milk and Other Dairy Products (from cows)**

11 ☐ **Cattle and Calves**

12 ☐ **Sheep, Goats, and their Products**
(wool, mohair, milk, cheese, etc.)

13 ☐ **Horses, Ponies, Mules, Burros, and Donkeys**

14 ☐ **Poultry and Eggs**
(broilers, chickens, turkeys, ducks, eggs, emus, geese, hatchlings, ostriches, pigeons, pheasants, quail, poultry products, etc.)

15 ☐ **Aquaculture**
(catfish, trout, ornamental and other fish, mollusks, crustaceans, etc.)

16 ☐ **Other Animals and Other Animal Products**
(honey bees, honey, rabbits, fur-bearing animals, semen, manure, other animal specialties, etc.)

Personal Characteristics

5. In 2021, how many people were involved in decisions for this operation?
    (Include family members and hired managers. Exclude hired workers unless they were
    a hired manager or family member.)...

    Number

    2000 [   ]

6. The following questions should be answered by a person involved in decisions for this operation.

    a. What was your age on December 31, 2021?... 2001 [   ]

    b. Are you of Hispanic, Latino, or Spanish origin?

        2002
        ₁ ☐ Yes
        ₃ ☐ No

    c. What is your race? Select all that apply.

        2003 ☐ White

        2004 ☐ Black or African American

        2005 ☐ American Indian or Alaska Native

        Specify tribe: 2006 [   ]

        2007 ☐ Asian

        2008 ☐ Native Hawaiian or Other Pacific Islander

    d. How do you currently describe yourself?

        2025
        ₁ ☐ Male
        ₂ ☐ Female
        ₃ ☐ Transgender
        ₄ ☐ None of these, specify: 2026 [   ]

    e. Was your sex recorded as male or female at birth?

        2027
        ₁ ☐ Male
        ₂ ☐ Female

    f. Which of the following best represents how you think of yourself?

        2028 ☐ Gay or lesbian

        2029 ☐ Straight, that is, not gay or lesbian

        2030 ☐ Bisexual

        2031 ☐ None of these, specify: 2032 [   ]

        2033 ☐ I am not sure yet

        2034 ☐ I don't know what this question means

g. Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard? Select one.

2017
   1 ☐ Never served in the military
   2 ☐ Only on active duty for training in the Reserves or National Guard
   3 ☐ Now on active duty
   4 ☐ On active duty in the past, but not now

h. What is the highest level of formal education you have achieved? Select one.

2018
   1 ☐ Less than high school diploma
   2 ☐ High school
   3 ☐ Some college (Include associates degree)
   4 ☐ Four-year college graduate or beyond

i. Do you have difficulty seeing, even if wearing glasses?

2019   1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

j. Do you have difficulty hearing, even if using a hearing aid?

2020   1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

k. Do you have difficulty walking or climbing steps?

2021   1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

l. Do you have difficulty remembering or concentrating?

2022   1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

m. Do you have difficulty with self-care, for example, washing all over or dressing?

2023   1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

n. Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

2024   1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

Respondent Name:		Date:			
9912		9910	MM	DD	YY
			——	——	——

Respondent Email:	Respondent Phone:	
1095	9911 (____) _____	check if cell phone ☐

Operation Email (if different from above):	Operation Phone (if different from above):	
9937	9936 (____) _____	check if cell phone ☐

Please return this form in the postage-paid envelope provided. Thank you for your cooperation.

2021 FARM PRODUCER STUDY

Version 5

USDA **United States Department of Agriculture**

NATIONAL AGRICULTURAL STATISTICS SERVICE

Please make corrections to name, address, and ZIP Code, if necessary.

Acreage in 2021

Include the farmstead, all cropland, ponds, woodland, pastureland, wasteland, and land that is in government programs.

1. In 2021, how many acres are:

   Mark "X" if None | Acres

   a. Owned?... ☐ 0043 [____]

   b. Rented or leased **from** others, or used rent free?
   (Exclude land used on an animal unit month (AUM) basis.)....................... ☐ 0044 [____]

   c. Rented or leased **to** others?... ☐ 0045 [____]

2. **Total acres operated in 2021**: [Items 1a + 1b − 1c]?.. 0046 [____]

3. Please classify this operation in terms of the gross value of sales and government agricultural payments in 2021.

> INCLUDE:
> - sales of all crops, livestock, poultry, and livestock products (milk, eggs, etc.) sold in 2021
> - value of hay, silage, and other crops harvested in 2021, but not sold
> - value of all crops, livestock, and poultry produced under contract in 2021
> - landlord's share of government payments and crops sold in 2021
>
> EXCLUDE dollars received on land rented to others.

0201

- 2 ☐ 'None' this year
- 3 ☐ $1 - $999
- 4 ☐ $1,000 - $2,499
- 5 ☐ $2,500 - $4,999
- 6 ☐ $5,000 - $9,999
- 7 ☐ $10,000 - $24,999
- 8 ☐ $25,000 - $49,999
- 9 ☐ $50,000 - $99,999
- 10 ☐ $100,000 - $149,999
- 11 ☐ $150,000 - $249,999
- 12 ☐ $250,000 - $349,999
- 13 ☐ $350,000 - $499,999
- 14 ☐ $500,000 - $999,999
- 15 ☐ $1,000,000 and over

4. Which of these categories represents the largest portion of the total gross value of sales in 2021 for this operation?

0862

- 1 ☐ **Grains, Oilseeds, Dry Beans, and Dry Peas**
  (corn, flaxseed, grain silage and forage, grains and oilseeds, popcorn, rice, small grains, sorghum, soybeans, sunflowers, straw, etc.)

- 2 ☐ **Tobacco**

- 3 ☐ **Cotton and Cottonseed**

- 4 ☐ **Vegetables, Melons, Potatoes, and Sweet Potatoes**
  (beets, cabbage, cantaloupes, pumpkins, sweet corn, tomatoes, watermelons, vegetable seeds, etc.)

- 5 ☐ **Fruit, Tree Nuts, and Berries**
  (almonds, apples, blueberries, cherries, grapes, hazelnuts, kiwifruit, oranges, pears, pecans, strawberries, walnuts, etc.)

- 6 ☐ **Nursery, Greenhouse, Floriculture, and Sod**
  (bedding plants, bulbs, cut flowers, flower seeds, foliage plants, mushrooms, nursery potted plants, shrubbery, sod, etc.)

- 7 ☐ **Cut Christmas Trees and Short Rotation Woody Crops**

- 8 ☐ **Other Crops, Hay, CRP, and Pasture**
  (grass seed, hops, maple syrup, mint, peanuts, sugarcane, sugarbeets, etc.)

- 9 ☐ **Hogs and Pigs**

- 10 ☐ **Milk and Other Dairy Products (from cows)**

- 11 ☐ **Cattle and Calves**

- 12 ☐ **Sheep, Goats, and their Products**
  (wool, mohair, milk, cheese, etc.)

- 13 ☐ **Horses, Ponies, Mules, Burros, and Donkeys**

- 14 ☐ **Poultry and Eggs**
  (broilers, chickens, turkeys, ducks, eggs, emus, geese, hatchlings, ostriches, pigeons, pheasants, quail, poultry products, etc.)

- 15 ☐ **Aquaculture**
  (catfish, trout, ornamental and other fish, mollusks, crustaceans, etc.)

- 16 ☐ **Other Animals and Other Animal Products**
  (honey bees, honey, rabbits, fur-bearing animals, semen, manure, other animal specialties, etc.)

Personal Characteristics

5. In 2021, how many people were involved in decisions for this operation?
    (Include family members and hired managers. Exclude hired workers unless they were
    a hired manager or family member.)...

    Number

    2000 [ ]

6. The following questions should be answered by a person involved in decisions for this operation.

    a. What was your age on December 31, 2021?... 2001 [ ]

    b. Are you of Hispanic, Latino, or Spanish origin?

        2002
        1 [ ] Yes
        3 [ ] No

    c. What is your race? Select all that apply.

        2003 [ ] White

        2004 [ ] Black or African American

        2005 [ ] American Indian or Alaska Native

        Specify tribe: 2006 [ ]

        2007 [ ] Asian

        2008 [ ] Native Hawaiian or Other Pacific Islander

    d. How do you currently describe yourself?

        2025
        1 [ ] Male
        2 [ ] Female
        3 [ ] Transgender
        4 [ ] None of these, specify: 2026 [ ]

    e. Was your sex recorded as male or female at birth?

        2027
        1 [ ] Male
        2 [ ] Female

    f. Which of the following best represents how you think of yourself?

        2028 [ ] Gay or lesbian

        2029 [ ] Straight, that is, not gay or lesbian

        2030 [ ] Bisexual

        2031 [ ] None of these, specify: 2032 [ ]

        2033 [ ] I am not sure yet

        2034 [ ] I don't know what this question means

g. In what year did you begin to operate ANY farm operation?.. 2012 [   ]

h. In what year did you begin to operate any part of THIS operation?.. 2013 [   ]

i. Are you involved in making day-to-day decisions for this operation?

2014

₁ ☐ Yes

₃ ☐ No

j. Are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?

2015

₁ ☐ Yes

₃ ☐ No

k. Are you involved in livestock decisions, including purchases, sales, breeding, and pasturing?

2016

₁ ☐ Yes

₃ ☐ No

l. Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard? Select one.

2017

₁ ☐ Never served in the military

₂ ☐ Only on active duty for training in the Reserves or National Guard

₃ ☐ Now on active duty

₄ ☐ On active duty in the past, but not now

m. What is the highest level of formal education you have achieved? Select one.

2018

₁ ☐ Less than high school diploma

₂ ☐ High school

₃ ☐ Some college (Include associates degree)

₄ ☐ Four-year college graduate or beyond

Respondent Name:	Date:			
9912	9910	MM	DD	YY
		——	——	——

Respondent Email:	Respondent Phone:
1095	9911 (____) _____ check if cell phone ☐

Operation Email (if different from above):	Operation Phone (if different from above):
9937	9936 (____) _____ check if cell phone ☐

Please return this form in the postage-paid envelope provided. Thank you for your cooperation.

2021 FARM PRODUCER STUDY

Version 6

USDA **United States Department of Agriculture**

NATIONAL AGRICULTURAL STATISTICS SERVICE

Please make corrections to name, address, and ZIP Code, if necessary.

Acreage in 2021

Include the farmstead, all cropland, ponds, woodland, pastureland, wasteland, and land that is in government programs.

1. In 2021, how many acres are:

   Mark "X" if None | Acres

   a. Owned?... ☐ 0043 [____]

   b. Rented or leased **from** others, or used rent free?
   (Exclude land used on an animal unit month (AUM) basis.)........................ ☐ 0044 [____]

   c. Rented or leased **to** others?.. ☐ 0045 [____]

2. **Total acres operated in 2021**: [Items 1a + 1b − 1c]?.. 0046 [____]

3. Please classify this operation in terms of the gross value of sales and government agricultural payments in 2021.

   INCLUDE:
   - sales of all crops, livestock, poultry, and livestock products (milk, eggs, etc.) sold in 2021
   - value of hay, silage, and other crops harvested in 2021, but not sold
   - value of all crops, livestock, and poultry produced under contract in 2021
   - landlord's share of government payments and crops sold in 2021

   EXCLUDE dollars received on land rented to others.

0201
   2 ☐ 'None' this year   3 ☐ $1 - $999   4 ☐ $1,000 - $2,499   5 ☐ $2,500 - $4,999

   6 ☐ $5,000 - $9,999   7 ☐ $10,000 - $24,999 8 ☐ $25,000 - $49,999   9 ☐ $50,000 - $99,999

   10 ☐ $100,000 - $149,999   11 ☐ $150,000 - $249,999 12 ☐ $250,000 - $349,999 13 ☐ $350,000 - $499,999

   14 ☐ $500,000 - $999,999   15 ☐ $1,000,000 and over

4. Which of these categories represents the largest portion of the total gross value of sales in 2021 for this operation?

0862
   1 ☐ **Grains, Oilseeds, Dry Beans, and Dry Peas**
   (corn, flaxseed, grain silage and forage, grains and oilseeds, popcorn, rice, small grains, sorghum, soybeans, sunflowers, straw, etc.)

   2 ☐ **Tobacco**

   3 ☐ **Cotton and Cottonseed**

   4 ☐ **Vegetables, Melons, Potatoes, and Sweet Potatoes**
   (beets, cabbage, cantaloupes, pumpkins, sweet corn, tomatoes, watermelons, vegetable seeds, etc.)

   5 ☐ **Fruit, Tree Nuts, and Berries**
   (almonds, apples, blueberries, cherries, grapes, hazelnuts, kiwifruit, oranges, pears, pecans, strawberries, walnuts, etc.)

   6 ☐ **Nursery, Greenhouse, Floriculture, and Sod**
   (bedding plants, bulbs, cut flowers, flower seeds, foliage plants, mushrooms, nursery potted plants, shrubbery, sod, etc.)

   7 ☐ **Cut Christmas Trees and Short Rotation Woody Crops**

   8 ☐ **Other Crops, Hay, CRP, and Pasture**
   (grass seed, hops, maple syrup, mint, peanuts, sugarcane, sugarbeets, etc.)

   9 ☐ **Hogs and Pigs**

   10 ☐ **Milk and Other Dairy Products (from cows)**

   11 ☐ **Cattle and Calves**

   12 ☐ **Sheep, Goats, and their Products**
   (wool, mohair, milk, cheese, etc.)

   13 ☐ **Horses, Ponies, Mules, Burros, and Donkeys**

   14 ☐ **Poultry and Eggs**
   (broilers, chickens, turkeys, ducks, eggs, emus, geese, hatchlings, ostriches, pigeons, pheasants, quail, poultry products, etc.)

   15 ☐ **Aquaculture**
   (catfish, trout, ornamental and other fish, mollusks, crustaceans, etc.)

   16 ☐ **Other Animals and Other Animal Products**
   (honey bees, honey, rabbits, fur-bearing animals, semen, manure, other animal specialties, etc.)

Personal Characteristics

5. In 2021, how many people were involved in decisions for this operation?
    (Include family members and hired managers. Exclude hired workers unless they were
    a hired manager or family member.)...

    Number

    2000 [   ]

6. The following questions should be answered by a person involved in decisions for this operation.

    a. What was your age on December 31, 2021?..

    2001 [   ]

    b. Are you of Hispanic, Latino, or Spanish origin?

        2002
        ₁ ☐ Yes
        ₃ ☐ No

    c. What is your race? Select all that apply.

        2003 ☐ White

        2004 ☐ Black or African American

        2005 ☐ American Indian or Alaska Native

        Specify tribe: 2006 [   ]

        2007 ☐ Asian

        2008 ☐ Native Hawaiian or Other Pacific Islander

    d. How do you currently describe yourself?

        2025
        ₁ ☐ Male
        ₂ ☐ Female
        ₃ ☐ Transgender
        ₄ ☐ None of these, specify: 2026 [   ]

    e. Was your sex recorded as male or female at birth?

        2027
        ₁ ☐ Male
        ₂ ☐ Female

    f. Which of the following best represents how you think of yourself?

        2028 ☐ Gay or lesbian

        2029 ☐ Straight, that is, not gay or lesbian

        2030 ☐ Bisexual

        2031 ☐ None of these, specify: 2032 [   ]

        2033 ☐ I am not sure yet

        2034 ☐ I don't know what this question means

g. Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard? Select one.

2017
1 ☐ Never served in the military

2 ☐ Only on active duty for training in the Reserves or National Guard

3 ☐ Now on active duty

4 ☐ On active duty in the past, but not now

h. What is the highest level of formal education you have achieved? Select one.

2018
1 ☐ Less than high school diploma

2 ☐ High school

3 ☐ Some college (Include associates degree)

4 ☐ Four-year college graduate or beyond

i. Do you have difficulty seeing, even if wearing glasses?

2019
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

j. Do you have difficulty hearing, even if using a hearing aid?

2020
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

k. Do you have difficulty walking or climbing steps?

2021
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

l. Do you have difficulty remembering or concentrating?

2022
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

m. Do you have difficulty with self-care, for example, washing all over or dressing?

2023
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

n. Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

2024
1 ☐ No difficulty   2 ☐ Some difficulty   3 ☐ A lot of difficulty   4 ☐ Cannot do at all

Respondent Name:		Date:			
9912		9910	MM	DD	YY
			——	——	——

Respondent Email:	Respondent Phone:
1095	9911 (____) _____ check if cell phone ☐

Operation Email (if different from above):	Operation Phone (if different from above):
9937	9936 (____) _____ check if cell phone ☐

Please return this form in the postage-paid envelope provided. Thank you for your cooperation.

Appendix E: CATI Instrument Screens for all Versions

FPS CATI VERSION 1

Decision

EXPDEMG210000 | Appointment | NonResponse | ELMOComments | OutsideAppointment |

In 2021, how many people were involved in decisions for this operation?

[INCLUDE] family members and hired managers.
[EXCLUDE] hired workers unless they were a hired manager or family member.

Enter a numeric value between   0 and 9997

Intro

The following questions should be answered by a person **involved in decisions** for this operation.

[ENUM] Enter 1 to continue.

○ 1. Press Enter to continue

Age

What was your age on December 31, 2021?

Enter a numeric value between   0 and 140

Origin

Are you of Hispanic, Latino, or Spanish origin?

○ 1. YES
○ 3. NO

Race

What is your race?

[NOTE] Select all that apply.

☐ 1. White
☐ 2. Black or African American
☐ 3. American Indian or Alaska Native

☐ 4. Asian
☐ 5. Native Hawaiian or Other Pacific Islander

Enter at most 5 values

Tribe for American Indian:

Please specifiy your tribe.

Enter a text of at most 30 characters

Sex

What is your sex?

○ 1. Male
○ 2. Female

Time

At which occupation did you spend the majority (50% or more) of your work time in 2021?

[NOTE] Select one

○ 1. Farm
○ 2. Work other than farming or ranching

DayOff

How many days did you work off the farm in 2021?

[NOTE] Select one.

[INCLUDE] days in which you worked at least four hours per day in an off-farm job.
[INCLUDE] work on someone else's farm for pay.

○ 1. None
○ 2. 1 - 49 days
○ 3. 50 - 99 days

○ 4. 100 - 199 days
○ 5. 200 days or more

OpAny

In what year did you begin to operate **ANY** farm operation?

Enter a numeric value between   0 and 9997

OpThis

In what year did you begin to operate any part of **THIS** operation?

Enter a numeric value between   0 and 9997

Day2Day

Are you involved in making day-to-day decisions for this operation?

○ 1. YES
○ 3. NO

LandUse

Are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?

○ 1. YES
○ 3. NO

LiveStk

Are you involved in livestock decisions, including purchases, sales, breeding, and pasturing?

○ 1. YES
○ 3. NO

Military

Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

[NOTE] Select one.

○ 1. Never served in the military
○ 2. Only on active duty for training in the Reserves or National Guard
○ 3. Now on active duty

○ 4. On active duty in the past, but not now

Educ

What is the highest level of formal education you have achieved?

[NOTE] Select one.

○ 1. Less than high school diploma   ○ 4. Four-year college graduate or beyond
○ 2. High school
○ 3. Some college (Include associates degree)

FPS CATI VERSION 2

Decision

In 2021, how many people were involved in decisions for this operation?

[INCLUDE] family members and hired managers.
[EXCLUDE] hired workers unless they were a hired manager or family member.

Enter a numeric value between   0 and 9997

Intro

The following questions should be answered by a person **involved in decisions** for this operation.

[ENUM] Enter 1 to continue.

○ 1. Press Enter to continue

Age

What was your age on December 31, 2021?

Enter a numeric value between   0 and 140

Origin

Are you of Hispanic, Latino, or Spanish origin?

○ 1. YES
○ 3. NO

Race

What is your race?

[NOTE] Select all that apply.

☐ 1. White
☐ 2. Black or African American
☐ 3. American Indian or Alaska Native

☐ 4. Asian
☐ 5. Native Hawaiian or Other Pacific Islander

Enter at most 5 values

Tribe for American Indian:

Please specifiy your tribe.

Enter a text of at most 30 characters

Sex

What is your sex?

○ 1. Male
○ 2. Female

Time

At which occupation did you spend the majority (50% or more) of your work time in 2021?

[NOTE] Select one

○ 1. Farm
○ 2. Work other than farming or ranching

DayOff

How many days did you work off the farm in 2021?

[NOTE] Select one.

[INCLUDE] days in which you worked at least four hours per day in an off-farm job.
[INCLUDE] work on someone else's farm for pay.

○ 1. None   ○ 4. 100 - 199 days
○ 2. 1 - 49 days   ○ 5. 200 days or more
○ 3. 50 - 99 days

Military

Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

[NOTE] Select one.

○ 1. Never served in the military
○ 2. Only on active duty for training in the Reserves or National Guard
○ 3. Now on active duty

○ 4. On active duty in the past, but not now

Educ

What is the highest level of formal education you have achieved?

[NOTE] Select one.

○ 1. Less than high school diploma
○ 2. High school
○ 3. Some college (Include associates degree)

○ 4. Four-year college graduate or beyond

See

Do you have difficulty seeing, even if wearing glasses?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Hear

Do you have difficulty hearing, even if using a hearing aid?

- ○ 1. No difficulty
- ○ 2. Some difficulty
- ○ 3. A lot of difficulty
- ○ 4. Cannot do at all

Walk

Do you have difficulty walking or climbing steps?

- ○ 1. No difficulty
- ○ 2. Some difficulty
- ○ 3. A lot of difficulty
- ○ 4. Cannot do at all

Memry

Do you have difficulty remembering or concentrating?

- ○ 1. No difficulty
- ○ 2. Some difficulty
- ○ 3. A lot of difficulty
- ○ 4. Cannot do at all

Dress

Do you have difficulty with self-care, for example, washing all over or dressing?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Lang

Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

FPS CATI VERSION 3

Decision

In 2021, how many people were involved in decisions for this operation?

[INCLUDE] family members and hired managers.
[EXCLUDE] hired workers unless they were a hired manager or family member.

Enter a numeric value between   0 and 9997

Intro

The following questions should be answered by a person **involved in decisions** for this operation.

[ENUM] Enter 1 to continue.

○ 1. Press Enter to continue

Age

What was your age on December 31, 2021?

Enter a numeric value between   0 and 140

Origin

Are you of Hispanic, Latino, or Spanish origin?

○ 1. YES
○ 3. NO

Race

What is your race?

[NOTE] Select all that apply.

☐ 1. White   ☐ 4. Asian
☐ 2. Black or African American   ☐ 5. Native Hawaiian or Other Pacific Islander
☐ 3. American Indian or Alaska Native

Enter at most 5 values

Tribe for American Indian:

Please specifiy your tribe.

Enter a text of at most 30 characters

Describe

How do you currently describe yourself?

○ 1. Male
○ 2. Female
○ 3. Transgender

○ 4. None of these, specify

Birth

Was your sex recorded as male or female at birth?

○ 1. Male
○ 2. Female

Represent

Which of the following best represents how you think of yourself?

☐ 1. Gay or lesbian
☐ 2. Straight, that is, not gay or lesbian
☐ 3. Bisexual

☐ 4. None of these, specify
☐ 5. I am not sure yet
☐ 6. I don't know what this question means

orientation specify box:

Pleae specify.

Enter a text of at most 30 characters

OpAny

In what year did you begin to operate **ANY** farm operation?

Enter a numeric value between   0 and 9997

OpThis

Are you involved in making day-to-day decisions for this operation?

○ 1. YES
○ 3. NO

Day2Day

In what year did you begin to operate any part of **THIS** operation?

Enter a numeric value between   0 and 9997

LandUse

Are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?

○ 1. YES
○ 3. NO

LiveStk

Are you involved in livestock decisions, including purchases, sales, breeding, and pasturing?

○ 1. YES
○ 3. NO

Military

Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

[NOTE] Select one.

- ○ 1. Never served in the military
- ○ 2. Only on active duty for training in the Reserves or National Guard
- ○ 3. Now on active duty
- ○ 4. On active duty in the past, but not now

Educ

What is the highest level of formal education you have achieved?

[NOTE] Select one.

- ○ 1. Less than high school diploma
- ○ 2. High school
- ○ 3. Some college (Include associates degree)
- ○ 4. Four-year college graduate or beyond

FPS CATI VERSION 4

Decision

In 2021, how many people were involved in decisions for this operation?

[INCLUDE] family members and hired managers.
[EXCLUDE] hired workers unless they were a hired manager or family member.

Enter a numeric value between   0 and 9997

Intro

The following questions should be answered by a person **involved in decisions** for this operation.

[ENUM] Enter 1 to continue.

○ 1. Press Enter to continue

Age

What was your age on December 31, 2021?

Enter a numeric value between   0 and 140

Origin

Are you of Hispanic, Latino, or Spanish origin?

○ 1. YES
○ 3. NO

Race

What is your race?

[NOTE] Select all that apply.

☐ 1. White
☐ 2. Black or African American
☐ 3. American Indian or Alaska Native

☐ 4. Asian
☐ 5. Native Hawaiian or Other Pacific Islander

Enter at most 5 values

Tribe for American Indian

Please specifiy your tribe.

Enter a text of at most 30 characters

Describe

How do you currently describe yourself?

○ 1. Male
○ 2. Female
○ 3. Transgender

○ 4. None of these, specify

Birth

Was your sex recorded as male or female at birth?

○ 1. Male
○ 2. Female

Represent

Which of the following best represents how you think of yourself?

☐ 1. Gay or lesbian
☐ 2. Straight, that is, not gay or lesbian
☐ 3. Bisexual

☐ 4. None of these, specify
☐ 5. I am not sure yet
☐ 6. I don't know what this question means

orientation specify box:

Pleae specify.

Enter a text of at most 30 characters

Military

Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

[NOTE] Select one.

○ 1. Never served in the military
○ 2. Only on active duty for training in the Reserves or National Guard
○ 3. Now on active duty

○ 4. On active duty in the past, but not now

Educ

What is the highest level of formal education you have achieved?

[NOTE] Select one.

○ 1. Less than high school diploma
○ 2. High school
○ 3. Some college (Include associates degree)

○ 4. Four-year college graduate or beyond

See

Do you have difficulty seeing, even if wearing glasses?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Hear

Do you have difficulty hearing, even if using a hearing aid?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Walk

Do you have difficulty walking or climbing steps?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Memry

Do you have difficulty remembering or concentrating?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Dress

Do you have difficulty with self-care, for example, washing all over or dressing?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Lang

Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

FPS CATI VERSION 5

Decision

In 2021, how many people were involved in decisions for this operation?

[INCLUDE] family members and hired managers.
[EXCLUDE] hired workers unless they were a hired manager or family member.

Enter a numeric value between   0 and 9997

Intro

The following questions should be answered by a person **involved in decisions** for this operation.

[ENUM] Enter 1 to continue.

○ 1. Press Enter to continue

Age

What was your age on December 31, 2021?

Enter a numeric value between   0 and 140

Origin

Are you of Hispanic, Latino, or Spanish origin?

○ 1. YES
○ 3. NO

Race

What is your race?

[NOTE] Select all that apply.

☐ 1. White   ☐ 4. Asian
☐ 2. Black or African American   ☐ 5. Native Hawaiian or Other Pacific Islander
☐ 3. American Indian or Alaska Native

Enter at most 5 values

Tribe for American Indian:

Please specifiy your tribe.

Enter a text of at most 30 characters

Describe

How do you currently describe yourself?

○ 1. Male
○ 2. Female
○ 3. Transgender

○ 4. None of these, specify

Birth

Was your sex recorded as male or female at birth?

○ 1. Male
○ 2. Female

Confirm

Just to confirm, you were recorded as **Female** at birth and currently describe yourself as **Male**. Is that correct?

○ 1. YES
○ 3. NO

Just to confirm, you were recorded as **Male**
at birth and currently describe yourself as **Transgender**.
Is that correct?

○ 1. YES
○ 3. NO

aLabel1	PERSONAL CHARACTERISTICS CONT.

Represent

Which of the following best represents how you think of yourself?

☐ 1. Gay or lesbian
☐ 2. Straight, that is, not gay or lesbian
☐ 3. Bisexual

☐ 4. None of these, specify
☐ 5. I am not sure yet
☐ 6. I don't know what this question means

orientation specify box:

Pleae specify.

Enter a text of at most 30 characters

OpAny

In what year did you begin to operate **ANY** farm operation?

Enter a numeric value between   0 and 9997

OpThis

In what year did you begin to operate any part of **THIS** operation?

Enter a numeric value between   0 and 9997

Day2Day

Are you involved in making day-to-day decisions for this operation?

○ 1. YES
○ 3. NO

LandUse

Are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?

○ 1. YES
○ 3. NO

LiveStk

Are you involved in livestock decisions, including purchases, sales, breeding, and pasturing?

○ 1. YES
○ 3. NO

Military

Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

[NOTE] Select one.

○ 1. Never served in the military
○ 2. Only on active duty for training in the Reserves or National Guard
○ 3. Now on active duty

○ 4. On active duty in the past, but not now

Educ

What is the highest level of formal education you have achieved?

[NOTE] Select one.

○ 1. Less than high school diploma
○ 2. High school
○ 3. Some college (Include associates degree)

○ 4. Four-year college graduate or beyond

FPS CATI VERSION 6

Decision

In 2021, how many people were involved in decisions for this operation?

[INCLUDE] family members and hired managers.
[EXCLUDE] hired workers unless they were a hired manager or family member.

Enter a numeric value between   0 and 9997

Intro

The following questions should be answered by a person **involved in decisions** for this operation.

[ENUM] Enter 1 to continue.

○ 1. Press Enter to continue

Age

What was your age on December 31, 2021?

Enter a numeric value between   0 and 140

Origin

Are you of Hispanic, Latino, or Spanish origin?

○ 1. YES
○ 3. NO

Race

What is your race?

[NOTE] Select all that apply.

☐ 1. White
☐ 2. Black or African American
☐ 3. American Indian or Alaska Native
☐ 4. Asian
☐ 5. Native Hawaiian or Other Pacific Islander

Enter at most 5 values

Tribe for American Indian:

Please specifiy your tribe.

Enter a text of at most 30 characters

Describe

How do you currently describe yourself?

○ 1. Male
○ 2. Female
○ 3. Transgender
○ 4. None of these, specify

Birth

Was your sex recorded as male or female at birth?

○ 1. Male
○ 2. Female

Confirm (note, it could be male, female if reported differently)

Just to confirm, you were recorded as **Female** at birth and currently describe yourself as **Male**. Is that correct?

○ 1. YES
○ 3. NO

Represent

Which of the following best represents how you think of yourself?

☐ 1. Gay or lesbian
☐ 2. Straight, that is, not gay or lesbian
☐ 3. Bisexual

☐ 4. None of these, specify
☐ 5. I am not sure yet
☐ 6. I don't know what this question means

orientation specify box:

Pleae specify.

Enter a text of at most 30 characters

Military

Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

[NOTE] Select one.

○ 1. Never served in the military
○ 2. Only on active duty for training in the Reserves or National Guard
○ 3. Now on active duty

○ 4. On active duty in the past, but not now

Educ

What is the highest level of formal education you have achieved?

[NOTE] Select one.

○ 1. Less than high school diploma   ○ 4. Four-year college graduate or beyond
○ 2. High school
○ 3. Some college (Include associates degree)

See

Do you have difficulty seeing, even if wearing glasses?

○ 1. No difficulty   ○ 4. Cannot do at all
○ 2. Some difficulty
○ 3. A lot of difficulty

Hear

Do you have difficulty hearing, even if using a hearing aid?

○ 1. No difficulty   ○ 4. Cannot do at all
○ 2. Some difficulty
○ 3. A lot of difficulty

Walk

Do you have difficulty walking or climbing steps?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Memry

Do you have difficulty remembering or concentrating?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Dress

Do you have difficulty with self-care, for example, washing all over or dressing?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Lang

Using your usual (customary) language, do you have difficulty communicating, for example, understanding or being understood?

○ 1. No difficulty
○ 2. Some difficulty
○ 3. A lot of difficulty

○ 4. Cannot do at all

Farm Producer Study - Frequently Asked Questions (FAQs)

Mail date: 12/20/2021
Due date: 1/18/2022

What is the Farm Producer Study?
The Farm Producer Study is an expanded demographics pilot study in response to executive order 13988, preventing and combating discrimination based on gender identity or sexual orientation. The study will also include new questions on disabilities. As a statistical agency, NASS works continuously to improve how we measure the diversity of American agriculture.

How long will it take to complete the form?
The Farm Producer Study should take **no more than 10 minutes**.

Who is in the Farm Producer Study?
There are 75,000 producers in the study nationwide.

Why is this study being conducted?
The purpose of this study is to improve our understanding of the agricultural population and help the USDA better serve agricultural producers. Scientific tests like the Farm Producer Study help NASS deliver on our mission to provide timely, accurate, and useful statistics in service to U.S. agriculture.

Don't we already have demographic data available for agriculture?
NASS provides a wealth of data products covering all aspects of U.S. agriculture, from highlights to a public web-based repository. The 2017 Census of Agriculture dataset includes detailed race, ethnicity, and gender profiles for every county in the nation. These demographic profiles can be found at: https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Race,_Ethnicity_and_Gender_Profiles/. This study expands upon NASS's current demographic survey data.

How will my answers be used?
The results of the study may lead to more robust demographic data products and assist other federal agencies, state and local governments, researchers, and analysts in administering and monitoring program effectiveness. The new questions in this study, which may be used in future NASS surveys and censuses, will provide stronger data, which will inform decisions that impact producers, communities, and the agriculture industry. Every response to this study is extremely important.

How do you protect my personal information?
All information you provide is confidential, **protected by federal law** (CIPSEA 2018, Title III of Pub. L. No. 115-435, codified in 44 U.S.C. Ch. 35 and other applicable federal laws). Your answers will be combined with all the responses, ensuring that no individuals or farm operations can be identified.

How do I respond?
Respond online – it's fast and secure. Go to www.agcounts.usda.gov and enter your unique survey code from your questionnaire, or respond by mail using the prepaid envelope provided.

When is the due date?
Please respond by January 18, 2022.

Where can I find the results to the Farm Producer Study?
The study results will be posted on the www.nass.usda.gov website as a research report in the Education and Outreach section next year. No official estimates will be published from this study. Instead, a report will be created using the data collected and will be used by USDA to better understand producers and ensure equitable program opportunities.

Definitions

Below are the verbatim responses you should give to respondents if they ask you a question or the meaning of one of the terms related to sexual orientation and/or gender identity. Do no try to define these terms yourself.

What is meant by "Sexual Orientation?"
The direction of one's romantic or sexual attraction to members of the same sex, opposite sex, or both sexes.

What is meant by "Gender Identity?"
A person's internal sense of gender, that is, being male, female, or a blend of both.

What is meant by "lesbian" or "gay?"
Romantic or sexual attraction to persons of the same sex. Another term that may be used for lesbian or gay is homosexual.

What is meant by "straight?"
Romantic or sexual attraction to persons of the opposite sex. Another term that may be used for straight is heterosexual.

What is meant by "bisexual?"
Romantic or sexual attraction to persons of both the same sex and opposite sex.

What is meant by "transgender?"
A person whose internal sense of being male or female is different from the sex assigned to them at birth.

Appendix G: FPS Behavior Coding Protocol

Farm Producer Study - SOGI/Disability
Updated 10/31/2022

Behavior Coding

We will only code first visits to a question. Within those visits we will be coding the first level exchange, number or exchanges, and final response only. For example, if the interviewer goes back to a question after asking several other questions to make a change, we will not code that. We will code the first exchange between the interviewer and the respondent, the number of exchanges, and the final answer for each question. The focus of this project is to understand the sexual orientation (SO), gender identity (GI), and disabilities questions, but in order to answer our research questions, all questions in the 'Personal Characteristics' section will be coded. Most questions can be seen in Version 6 of the questionnaire. As we are coding, we will be considering the following research questions:

- Research Question 1: how did the interviewers deliver each question?
- Research Question 2: how did the respondents react to each question?
- Research Question 3: did the interviewers deliver the SOGI questions differently than the disability questions?
- Research Question 4: did the respondents react to the SOGI questions differently than the disability questions?
- Research Question 5: did the interviewers deliver the SOGI questions differently than other demographic questions (e.g., Education, Military Service, Race/Ethnicity, Age)?
- Research Question 6: did the interviewers deliver the disability questions differently than other demographic questions?
- Research Question 7: did the respondents react to the SOGI questions differently than other demographic questions?
- Research Question 8: did the respondents react to the disability questions differently than other demographic questions?

Exchanges

In behavior coding, each turn in the interview can be coded. A turn begins when the first person begins speaking and ends when the second person begins speaking. ***A pair of turns is referred to as an exchange***. During the administration of a single question there can be a number of exchanges before a final answer to the question is given. In an ideal situation there would be one exchange between the interviewer and the respondent. That is, the interviewer would ask the question and the respondent would answer. However, multiple exchanges can occur for a variety of reasons, such as a respondent asking for clarification or providing an inadequate response.

If both the first and second person do not speak, a turn *has not occurred,* and an exchange has not happened. For example, if an interviewer speaks and the respondent does not respond, that is not an exchange. If this occurs, please code the number of exchanges as 0.
Examples:

Interaction Involving Zero Exchanges:

I: And the following questions should be answered by a person involved in the decisions for this operation, ok so that's you.

(*this is an example from the instructional statement, which should not involve exchanges as a question is not being asked of respondents)

Interaction Involving One Exchange:

I: What is the highest level of formal education you have achieved?

R: 12th grade

Interaction Involving Two Exchanges:

I: And how do you currently, um, describe yourself? Male, female, transgender, or none of these specify?

R: What's that?

I: it says how do you describe yourself? Male, <R interrupts>

R: Male (End of Second Level Exchange)

We will be keeping track of the number of exchanges taken to administer each question as follows:
Each exchange that is topically related to the survey (e.g., the question being asked, a response, asking for clarification etc.) should be counted in the total number of exchanges.

Number of Exchanges
0 exchanges
1 exchange
2 exchanges
3+ exchanges

Behavior coding each exchange can be time consuming and research has found there to be diminishing returns to coding all exchanges for a single question. Due to this, we will only be behavior coding the first level exchange and the final response given. The codes appear below. All codes at the primary code level are mutually exclusive. An exchange could have more than one secondary code applicable, for example, an interviewer could provide definitional text and insert a transition statement.

Interviewer Behavior Codes

Question Asking *(FIRST LEVEL EXCHANGE ONLY)*	
Primary Coding	
EW	Exact wording
MC	Minor change
MM	Major modification*
DRQV	Did not read the question, verification *
DRQF	Did not read the question, falsification
DRIS	Incorrectly skipped the question
OTHI	Other*
Secondary Coding	
DT	Definitional text*
RW	Repeated wording*
TS	Transition statement *
AC	Additional commentary provided*
* Add verbatim notes of what the interviewer said (indicate which code applies to)	

Description of Interviewer Behavior Codes

Primary Codes: For these codes, we are looking to see if the interviewers read the question initially <u>exactly as worded</u>. If not, we want to capture the types of changes that were made as the question was administered.

EW – Exact wording: Interviewer read the question exactly as worded. Please note that if superfluous words, such as now, next, or in, are added or omitted, the primary code for this should still be EW.
EW example:
Original question wording:
     At which occupation did you spend the majority (50% or more) of your work time in 2021?
Example:
     Now at which occupation did you spend the majority 50% of your work time in 2021?

MC – Minor change: Interviewer makes slight wording changes that do not affect the meaning of the question or do not omit/change terms which represent the main concepts. If the interviewer repeats any portion of the question and it does not affect the meaning or the question, or change the main concepts, and it was done without the respondent asking for it, it should be coded as a minor change. *Please also include in this code if the interviewer repeats any portion of the question, if it does not affect the meaning of the question or change the main concepts, and if it was done without the respondent asking for it.* Please mark in the 'Secondary Coding' section if this happens, with a RW for repeated wording.

MC example:
Original question wording:

> In 2021, how many people were involved in decisions for this operation?
> (Include family members and hired managers. Exclude hired workers unless they were
> a hired manager or family member.)

Example:

> Now, in 2021, how many people were involved in decisions for this operation? Include family
> members, or retired, managers, just anything.

MM– Major modification/change: Interviewer changes the content of the question in ways that affect or could possibly affect the meaning of the question (e.g., changes in verb tense, missing exclude/include statements, omission of reference periods, paraphrasing text or substituting similar words for main concepts, omission of significant question content after interruption). Please note that if the interviewer provided or added any type of lead-in or transition statement to the question, that should be considered a major modification/change. Please mark if this happened in the 'Secondary Coding' section, with a TS for transition statement. *Verbatim transcription notes of what the interviewer said are required if this is selected.

MM example:
Original question wording:

> In 2021, how many people were involved in decisions for this operation?
> (Include family members and hired managers. Exclude hired workers unless they were
> a hired manager or family member.)

Example:

> Are you the only person that makes decisions for this operation?

Questions Not Administered
If any question **was not administered** and it should have been, to determine what code should be selected (e.g., DRQF, DRQV, DRIS), it may require looking at the survey data to select the applicable primary code. For example, if a respondent was administered version 6, but none of the disability questions were asked aloud, the coder would need to open the interviewer recorded responses to see if data was entered or not. This can be done by opening the final dataset in SAS and searching the dataset via the "Data" command on the toolbar and filtering on the state POID. Scroll right until the variable in question appears and the data cell can be verified. A version of the responses is also available in an Excel file.

DRQV – Did not read the question, verification: Interviewer confirmed information without attempting to read the question. The interviewer verifies the response by either stating information the respondent previously provided *or* assuming a response. See examples below. *This does not include verification after a response is given*. Verbatim notes of what the interviewer said are required if this is selected.

DRQV Example:
Original question wording:

> What is your race? Select all that apply.

Example:
  I: and are you of any Hispanic, Latino, or Spanish origin?
  R: no no, Philippino
  I: ok, Phillipino,
  I: ok I was about to ask you know Pacific Islander or Phillipino, along those lines. Ok

DRQF - Did not read the question, falsification: Interviewer enters a response without asking the survey question or verifying, or changes a response given by the respondent. Please note that the word 'falsification' will not be used in any reports or result write-ups, instead the term shortcutted/shortcutting will be used in any result write-ups to describe these behaviors.

  Example 1: Interviewer assumes the respondent's sex is male and enters that without asking the question.

  Example 2:
  I: Are you involved in the day-to-day decisions for this operation?
  R: Yeah.

  When the interviewer gets to 'Are you involved in land use or crop decisions, including planting, crop spraying, or other such as grazing?", interviewer just enters 'yes' without asking the question.

DRIS: Did not read, incorrectly skipped the question: interviewer did not ask the question and did not attempt to enter a response when the question should have been asked. *Please note that you may have to reference back to the version of the questionnaire to check for any question(s) that may have been skipped.*

OTHI – Use this code for any dialogue on the part of the interviewer that does not fit into the codes described above. Only use this code as a last resort. Always include notes that describe what transpired. Examples for things that were coded as OTHI included instances where multiple questions were combined or asked within the same question or if the question order was changed by the interviewer. **Note: if the respondent interrupts the interviewer, code the interviewer's dialogue up to the point of interruption.

Secondary Codes: these are codes for additional or secondary changes that were made during the administration of a question, that could occur within a primary code. An exchange could have more than one secondary code applicable, for example, an interviewer could provide definitional text and insert a transition statement.

DT – Definitional text: The interviewer reads any instructional or definitional text. This also includes any definitional text provided from the interviewer training PDF. *When coding this, please make a note of which instructional or definitional term was referenced and if the definition was read verbatim (or not). Please mark in the 'Other Comment' section with additional information.

DT Example:

    Well, ok, so the definition means that would be a day in which you worked at least 4 hours per day off, off, on an off-farm job.

RW - Repeated wording: The interviewer repeats any portion of the question, this can be prompted by the respondent or done without prompting. *Please indicate if the repeated wording was prompted by the respondent or not.*

RW Example:

    I: Some or a lot?
    R: Excuse me?
    I: Is it some or a lot of difficulty?

TS- Transition statement: The interviewer provided or added substantive lead-in or transition statement prior to asking the next question. A transition statement should be substantive and beyond a single word that does not impact the meaning of the question, such as "now" and "next".

TS Examples:

    Example 1: Now, I have another question….
    Example 2: Alright, now again, with some of these questions, if you feel uncomfortable answering 'em, that's ok. They're a little different. We haven't asked this before.
    Example 3: Now I'm going to read you some selections for you.
    Example 4: And, ah, (laughs), this is maybe, ah, something you may or may not want to answer. This is the first time this is on a survey.

AC – Additional commentary provided: this can be either positive or negative commentary about a question, that has been provided in an exchange by the interviewer. This can be comments about why the question is being asked, additional information about the study or survey etc. For AC to be selected, the commentary should be in some way related to the survey. Please indicate whether this commentary was prompted by the respondent or not prompted by the respondent. *Verbatim transcription notes of what the interviewer said are required if this is selected.*

AC Examples (AC is in i*talicized* text):

    Example 1: are you involved in making day to day decisions for this operation, *well, yeah, because you're the one that, some of the questions just baffle me because we already said that we were talking to the person who makes the decisions. So, I don't know.*
    Example 2: and may I ask how old you were on December 31, 2021? *They want to get an idea how old people are who are involved, whether it's the cattle, sheep,*
    Example 3: I: And which of the following best represents how you think of yourself? Um, I have straight, that is that you're not gay or lesbian, bisexual, gay or lesbian, none of these, I'm not sure yet, *and if you don't feel comfortable, you can tell me to pass sir.*

Interviewer Response Option Codes

Response Options (*FIRST LEVEL EXCHANGE ONLY) (check one only*)	
Primary Coding	
EW	Exact wording
MC	Minor change
MM	Major modification*
DRIS	Incorrectly skipped the response options
OTHI	Other*
Secondary Coding	
DT	Definitional text*
RW	Repeated wording*
TS	Transition statement *
AC	Additional commentary provided*
INTERRPT	Respondent interrupts interviewer
FS	Response entered by interviewer is falsified because it is different than response given by a respondent.
* Add verbatim notes of what the interviewer said (indicate which code applies to)	

Description of Interviewer Response Option Codes

Response option codes: For these codes, we are looking to see if the interviewers read the question response options, as worded. In order to not bias the coding of question wording, we have decided to code the response options separately. This also allows for analysis of question wording and question response options to be done separately. Any question that had a response option that was not a numeric response (e.g., a year or number), will be coded separately from the question text.

Primary Codes:
EW – Exact wording: Interviewer read the response options exactly as worded. Please note that if superfluous words, such as now, next, or in, are added or omitted, the primary code for this should still be EW.

MC – Minor change: Interviewer makes slight wording changes that do not affect the meaning of the response options or do not omit/change terms which represent the main concepts. If the interviewer repeats any portion of the response options and it does not affect the meaning or change the main concepts, and it was done without the respondent asking for it, it should be coded as a minor change. If an interviewer is interrupted when reading response option(s), please code this as a minor change and mark 'Interrpt', in the 'Secondary Coding' section. *Please also include in this code if the interviewer repeats any portion of the question, if it does not affect the meaning of the response options or change the main concepts, and if it was done without the respondent asking for it*. Please mark in the 'Secondary Coding' section if this happens, with a RW for repeated wording.

MM– Major modification/change: Interviewer changes the content of the response option(s) in ways that affect or could possibly affect the meaning of the main concepts (e.g., changes in verb tense, reordering of the response options, paraphrasing text or substituting similar words for main concepts). If the interviewer modifies the order of the responses that are read to the respondent, this should be coded as a major modification. Please note that if the interviewer provided or added any type of lead-in or transition statement to the response options, that should be considered a major modification/change. Please mark if this happened in the 'Interviewer Secondary' section, with a TS for transition statement. *Verbatim transcription notes of what the interviewer said are required if this is selected.

DRIS: Did not read, incorrectly skipped the responses: interviewer did not read the response options to the respondent, and they should have been read, as per the indications in the CATI screen instrument (e.g. the text was black in color, not purple or red).

Secondary Codes: these are codes for additional or secondary changes that were made during the administration of the response options, that could occur within a primary code.

DT – Definitional text: The interviewer reads any instructional or definitional text. This also includes any definitional text provided from the interviewer training PDF. *When coding this, please make a note of which instructional or definitional term was referenced and if the term definition was read verbatim (or not). Please mark in the 'Other Comment' section with this additional information.

RW - Repeated wording: The interviewer repeats any portion of the response options, this can be prompted by the respondent or done without prompting. *Please indicate if the repeated wording was prompted by the respondent or not.

TS- Transition statement: The interviewer provided or added any type of lead-in or transition statement to the response options.

AC – Additional commentary provided: this can be either positive or negative commentary about response options, that has been provided by the interviewer. This can be comments about why the response options are being given, additional information about the study or survey etc. For AC to be selected, the commentary should be in some way related to the survey. Please indicate whether this commentary was prompted by the respondent or not prompted by the respondent. *Verbatim transcription notes of what the interviewer said are required if this is selected.

INTERRPT - Respondent interrupts interviewer while he/she is reading the response options.

Respondent Behavior Codes

Respondent Behavior *(FIRST LEVEL EXCHANGE ONLY) (check one only)*	
CA	Codable answer
INC	Response is not in the intended format *
QA	Qualified answer*
CLAR	Request for clarification*
INTERRPT	Respondent interrupts interviewer
VERNORES	Respondent does not respond to verification
VERCORR	Respondent corrects verification
VERA	Respondent agrees with verification
DK	Respondent answered don't know
REF	Respondent refused to answer
FS	No response given because interviewer failed to ask the question or verify a response when the information was given earlier in the interview
OTHR	Other*
AC	Additional commentary provided* (Mark in 'Other Comments')
* Add verbatim notes of what the respondent said (indicate which code applies to)	

Description of Respondent Behavior Codes

Note: The respondent behavior code encapsulates the respondent behavior during the first level exchange for both the question wording as well as the response options wording, despite having separate coding lines in the spreadsheet for interviewer actions with question wording and response option wordings.

CA – Codable Answer: The respondent provides a response that fits the existing response options, as worded in the question. *If the interviewer verified the information and the respondent agreed with it, mark it as INC for respondent behavior if the response doesn't match the response format (e.g., no, yes or that's correct), but in the final response option, you can mark it as CAFR for the final response (see below for definition of CAFR).

> Example 1:
> I: So, what was your age on December 31, 2021?
> R: 71
> Example 2:
> I: And how do you currently describe yourself? Male, female, transgender, or none of these?
> R: Female

INC – Incorrect format: Respondent provides an answer that is not in the correct format for the response option in the survey.

> Example 1:
> I: Alright, um, it says is he of Hispanic, Latino, or Spanish origin, yes or no?
> R: He's Hispanic
> (Response options are: Yes, No)
> I: OK
> Example 2:
> I: Do you have any difficulty seeing, even if you're wearing glasses?
> R: Yes, ma'am.

(Response options are: no difficulty, some difficulty, a lot of difficulty, cannot do at all)

QA – Qualified Answer: The respondent provides a modified response by placing conditions around the response. The respondent expresses uncertainty about the response provided and may be unsure about the accuracy of the information. Please note that a qualified answer may also be given in an incorrect format. However, a qualified answer has additional information or conditions being provided along with the incorrectly formatted response, which makes it distinct from a INC code. Please only choose QA if this occurs. Notes are required if this is selected.

> Example:
> I: Now, ah, which race would you identify with?
> R: Me, what race, would be race, what options we have?
> I: Ah, we have white. We have, ah, <respondent interrupts>
> R: I guess white, because I'm Puerto Rican, but I'm really pale.

CLAR – Request for Clarification: The respondent requests clarification of the question meaning or response options, or for any part of the question to be re-read.

> Example 1:
> I: Alright now, what would be the highest education level you have achieved?
> R: Me?
> I: yes, ma'am
> R: I have a bachelor's degree in special ed
> I: oh ok, alright then

> Example 2:
> I: When it comes to the day-to-day decisions, are you the only one that makes all the decisions? For the fruit and the flowers? Or is there anyone else that helps you with the decision making?
> R: What do you mean decisions?
> I: So, like you're in charge of all the planting and the spraying

INTERRPT: Respondent interrupts interviewer while he/she is reading the question.

    Example:

    I: Alright, it says what is his race? And it says…

    R: (interrupts) white

    I: select all..

    R: White

VERNORES: Respondent does not respond to interviewer's verification.

    Example:

    I: It says at which occupation did he spend the majority of work time in 2021? And that's 50% or more. And the two choices are farm or work other than farm. So, which one?

    R: We're retired and so he does the ranch work every weekend.

    I: ok, so on the farm, ok. alright. So, does he, um, just out of curiosity, does he do any does he do any off-farm work at all?

    R: Well, he moves hay, he goes and gets hay, he cuts, he shreds, you know

    I: What they are asking is some people may have a farm, but they also have an outside job where they go work for somebody else or...

    R: We're retired.

VERCORR: Respondent corrects interviewer's verification

    Example:

    I: And in what year did you begin to operate any farm operation?

    R: 2018, December 2018

    I: 20, alright, thank you

    I: And you said 2018 was the year you began to operate any part of this operation?

    R: oh, no, that was 2015

VERA: Respondent agrees with interviewer's verification.

    Example:

    I: <for the race question> You said you were a white male?

    R: Yes, that's correct.

DK – Don't know: The respondent states that he/she does not have the information.

REF – Refused: The respondent refuses to provide a response.

FSR- No response given because interviewer failed to ask the question or verify a response when the information was given earlier in the interview.

OTHR – Other: Use this code for any dialogue on the part of the respondent that does not fit into the codes described above. Only use this code as a last resort. Include notes that describe what transpired. An additional example of OTHR could be when the recording quality is too low, and a response is not able to be heard. OTHR can also include inadequate answers

Example of inadequate answer:
I: Which of the following best represents how you think of yourself? Gay or lesbian, straight that is not gay or lesbian, bisexual, none of these, I'm not sure yet
R: I'm married
R: ok

AC – Additional commentary provided: this can be either positive or negative commentary about a question, that has been provided in an exchange by the respondent. These comment(s) can be related to why a question is being asked, requests for additional information beyond terminology or requests to repeat the question, etc. Please indicate whether this commentary was prompted by the interviewer or not. *Verbatim transcription notes of what the respondent said are required if this is selected.*

Final Response

Respondent Answer (Check one only)	
CAFR	Codeable final answer
INCFR	Response is not in the intended format final answer*
QAFR	Qualified final answer*
VERNORESPF	Does not respond to verification
VERCORRF	Corrects verification
VERAFR	Respondent agrees with verification
DKFR	Respondent answered don't know
REFFR	Respondent refused to answer
FSFR	No response given because interviewer failed to ask the question or verify a response when the information was given earlier in the interview
OTHFR	Other*
AC	Additional commentary provided* (Mark in 'Other Comments')
* Add verbatim notes of what the respondent said (indicate which code applies to)	

Description of Final Response Behavior Codes

*Note: The final response **may not** be the same as the respondent code, even if the interaction ended at the 1st level.* In order to more accurately capture the distinction between response as given by respondents and the response options as written in the questions, we are distinctly coding initial response from a final, codable response, even in single level exchanges. Here is an example:
I: what is the highest level of education you've achieved?
R: only 6th grade
I: Ok
The response given, "only 6th grade", does not match the response options from the question (Less than high school diploma, high school, some college (include associates degree), four year college graduate or beyond). However, the interviewer can reasonably convert the response "only 6th grade" to the existing category of "less than high school diploma". The goal of coding final responses, even in single level exchanges, is to capture any conversions that interviewers may be having to do based on the

information provided by respondents. Please note that the coder may want to verify what was entered by the interviewer to verify this assumption.

CAFR – Codeable Final Answer: The respondent provides a *final* response that meets the objective of the question and *can easily* be classified into one of the existing response options. *If the interviewer verified the information and the respondent agreed with it, mark it as CAFR even if the response doesn't exactly match the response format (e.g., no, yes or that's correct).
Example 1:
> I: Do you have any difficulty seeing, even if you're wearing glasses?
> R: Yes, ma'am.
> I: Some or a lot?
> R: Excuse me?
> I: Is it some or a lot of difficulty?
> R: Some.
> I: Some? OK
Example 2:
> I: How many, in 2021, how many people were involved in decision making for this operation? Include family members and hired managers.
> R: just me and my wife
> I: your wife, too?
> R: uh huh
> I: ok

INCFR – Incorrect Format Final Answer: Respondent provides a final answer that is not in the correct format for the response option in the survey and **cannot be easily classified** in response options for the survey. Note if after receiving an initial response in the incorrect format, the interviewer asks a follow-up question, and it results in a response in the correct format then it would be coded as CAFR
Example:
> I: Were you ever in the military?   (Response options are: never served in the military, only on active duty for training in the Reserves or National Guard, now on active duty, on active duty in the past, but not now)
> R: My husband did, he retired in 1994
> I: ok, ok then.
>
> I: Now, do you have any difficulty seeing, even with glasses? (Response options are: no difficulty, some difficulty, a lot of difficulty, cannot do at all)
> R: No, no, no, I have my glasses (muffled) bifocals, what do they call it, no, I have to use my bifocals here
> I: OK, alright then

QAFR – Qualified Final Answer: The respondent provides a modified final response by placing conditions around the response. The respondent expresses uncertainty about the final response provided and may be unsure about the accuracy of the information. Please note that a qualified final answer may also be in an incorrect format. However, a qualified answer has additional information or conditions being

provided along with the incorrectly formatted response. Please only choose QAFR if this occurs. Notes are required if this is selected.
Example:

> I: And in what year <R interrupts>
> R: I've been doing it all my life
> I: did you begin to operation any part of this operation, now is that when you started this operation, in 2001?
> R: Ok, I've been doing this my entire life.

VERNORESF: Respondent does not respond to interviewer's verification

VERCORRF: Respondent corrects interviewer's verification

VERAFR: Respondent agrees with interviewer's verification

DKFR – Don't know: In his/her final response the respondent states that he/she does not have the information

REFFR – Refused: The respondent refuses to provide a response.

FSFR – No response given because interviewer failed to ask the question or verify a response when the information was given earlier in the interview.

OTHFR – Other: Use this code for any dialogue on the part of the respondent that does not fit into the codes described above. This code now includes inadequate responses. Only use this code as a last resort. Always include notes that describe what transpired. An additional example of OTHFR could be when the recording quality is too low, and a response is not able to be heard for the final response.

> Example of inadequate answer:
> I: Which of the following best represents how you think of yourself? Gay or lesbian, straight that is not gay or lesbian, bisexual, none of these, I'm not sure yet
> R: I'm married

AC – Additional commentary provided: this can be either positive or negative commentary about a question, that has been provided in an exchange by the respondent. These comment(s) can be related to why a question is being asked, requests for additional information beyond terminology or requests to repeat the question, etc. Please indicate whether this commentary was prompted by the interviewer or not. *Verbatim transcription notes of what the respondent said are required if this is selected.*

Sample

We will code 40-50 interviews from the Farm Producer Study. Pam McGovern will select interviews and place them into the R directory.

All recordings can be found in: R:\Data_Files\VerintRecordings\FarmProducerStudy
Screenshots of the survey versions can be found in: H:\Shared\MDSSDMB\Survey Methodology\Surveys\Farm Producer Survey (SOGI and Disability)\Behavior Coding\VersionScreenshots

Other Project Information and Materials

1. Overview of the Farm Producer Survey
   a. Sample size was about 75,000:
      i. Version 1: Control, no SOGI or Disability questions (sample: about 12,500)
      ii. Version 2: Disability questions, no SOGI questions (sample: about 12,500)
      iii. Version 3: SOGI questions, no Disability questions (sample: about 25,000)
      iv. Version 4: Both SOGI and Disability questions (sample: about 25,000)
      v. Versions 3 and 4 were further split into two (sample: about 12, 500 each), a version with confirmation questions, and a version without confirmation questions.
   b. Response rate:
      1. Of the 75,262 sampled farms, responses were obtained from 34,059, giving a cooperation rate of 45.3% (Young, L. and Rater, B. (2022). "The Farm Producer Survey: Unit and Item Nonresponse," National Agricultural Statistics Service Research Report RDD-22-01).
      2. We have records for about 90 percent of CATI calls.
   c. For CATI, there was no introduction or transition statements to either the SOGI or Disability questions.

Enumerators did receive some background and training on the FPS. During this training, they were walked through the CATI instrument and given access to a PDF of definitions of terminology used in the study. Link to recording of the training: https://www.youtube.com/watch?v=yEwWiogQSRw. Coders viewed the training and additional materials provided to enumerators.

Coders also reviewed general enumerator training to get a better understanding of operations and procedures for what text should be read aloud in the Blaise instrument. These training included:

New Telephone Enumerator Training Part 2
1. New Telephone Enumerator Training Part 3
2. New Telephone Enumerator Training Part 5
3. Call Center Demo Interview

Inter Rater Reliability (IRR)
Before coding can begin, we must achieve good agreement among the coders. To start, all coders will code the same 10 interviews. We will assess the reliability of our coding using the Kappa statistic, aiming to have a score of at least.70.

Each subsequent interview, after the initial 10, will be coded by two coders and codes will be reconciled wherever possible. Only one final code will be used for the final analysis. In cases where discrepancies cannot be reconciled, the third coder will review the exchange and decide on the final code to be used.

Determining Problems

Once coding is complete, analyses will be conducted to answer the research questions. For example, we will calculate how often codes are utilized for each question. For interviewers, if MC, VER, or FS occurs

15% of the time or more, it is an indication there may be an issue with the interviewers or the survey questions and they need to be reviewed. For respondents, if QA, CLAR, DK, REF are coded 15% or more, it is an indication there may be an issue with the survey questions and they need to be reviewed. Other possible indicators of problems may be the number of exchanges and additional commentary provided.

For problematic questions found using the interviewer behavior codes, we will first review the coding to determine if the issue is with select interviewers or is occurring across all interviewers. (It may not be possible to do this with only 40 interviews)

Appendix H: Findings and recommendations for Conventional Demographic and Producer Characteristic Questions

This appendix contains findings and recommendations for the conventional demographic questions and producer characteristic questions. These questions were behavior coded and analyzed in the same way as the SOGI and disability questions presented in the report. Sections are numbered as if they continue in the Results Section of the report, starting with Section 3.3.3. Figure and table numbers also continue from the body of the report. The categories covered in this Appendix include introduction questions, conventional demographic questions, and producer characteristic questions.
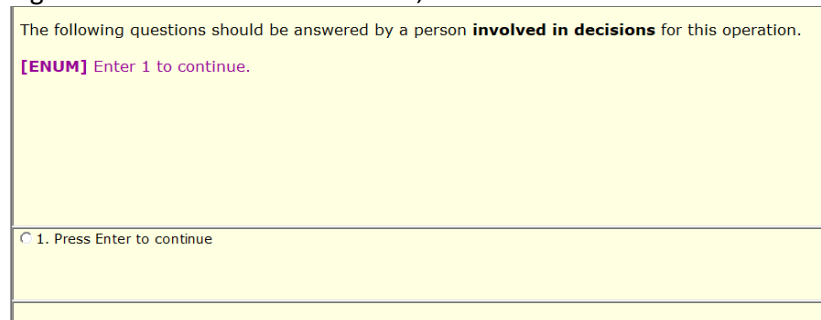
3.3.3 Introduction Questions

To assess how each introduction question performed, the following were assessed, as appropriate for the type of question: the number of exchanges it took to get a final response, the way the question was administered (primary and secondar interviewer codes), and the respondent behavior.

3.3.3.1 Instructional statement for personal characteristics section

The instructional statement was asked in all versions of the CATI instrument, prior to the personal characteristic questions. Therefore, this statement was coded for all 49 interviews. As this item was a statement and did not ask a direct question of respondents, only interviewer behaviors were coded for this item. Figure 11 shows the instructional statement as shown in the CATI instrument. The CATI image shows the bolded emphasis on the component of the statement "involved in decisions."

Figure 11: Instructional Statement, CATI

The following questions should be answered by a person **involved in decisions** for this operation.

[ENUM] Enter 1 to continue.

○ 1. Press Enter to continue

Table 49 provides the summary of interviewer behavior codes for the instructional statement.

Table 49: Summary of Behavior Codes for Instructional Statement *(n=49)* [1]

Item/Code	Code Meaning	Percent	Reading Statement Text
			(percent)
Number of Exchanges			
0	Zero exchanges	95.9	-
1	One exchange	4.1	-
2	Two exchanges	0.0	-
3+	Three or more exchanges	0.0	-
Primary Interview Code			
EW	Exact Wording	-	6.1
MC	Minor Change	-	8.2
MM	Major Modification	-	46.9
DRQV	Did Not Read, Verification	-	0.0
DRIS	Did Not Read, Incorrectly Skipped	-	38.8
SC	Shortcutted	-	0.0
OTHI	Other	-	0.0
Secondary Interview Code [2]			
DT	Definitional Text	-	0.0
RW	Repeated Wording	-	0.0
TS	Transition Statement	-	4.1
INTERRPT	Respondent interrupts interviewer	-	0.0
AC	Additional Commentary	-	24.5
NONE	No secondary codes present		73.5

1/ There were no response options for this item, so they were not coded.
2/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

The instructional statement was included to emphasize that the personal characteristics section should only be answered by a particular person, since the FPS collected data for only the responding producer and did not ask for proxy data. However, as shown from the large percentage of interviews coded as *major modification* (46.9%) and *did not read-incorrectly skipped* (38.8%), the instructional statement was very difficult to administer. At this point in the interview, the interviewer has verified the address information, and the respondent has answered questions about the operation, including acreage, type of farm, and value of sales. Therefore, this statement could have seemed nonsensical to both the interviewer and the respondent.

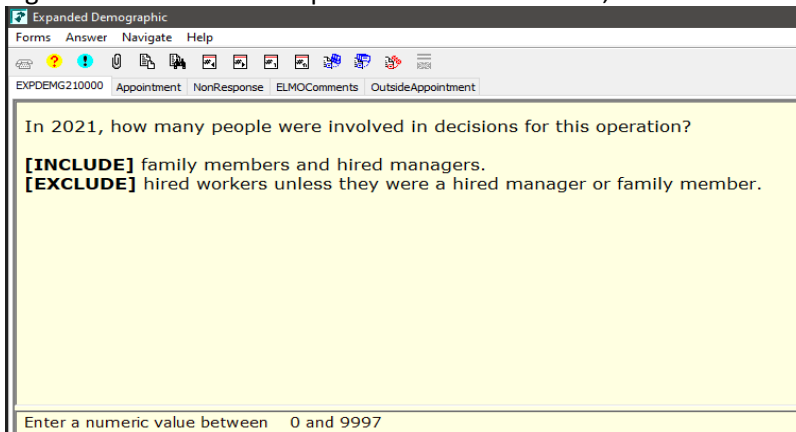Recommendations for the 'instructional statement':

1. Instructional statements, such as the one used in this survey, should be thoughtfully worded, and only be read by the interviewer if they make sense in the context of the overall interview. If they are used, they need to be fully explained to both the respondent and interviewer.

2. If an instructional statement like the one used in this survey is kept, it should address the particular types of questions that will be asked to better inform respondents of types of questions they will answer, an example could be similar to the transition statement in other recommendations: "The next section will ask demographic questions about people involved

in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions."

3.3.3.2 Number of people involved in decisions

The 'number of people involved in decisions' was asked in all versions of the CATI instrument. Therefore, this statement was coded for all 49 interviews. Figure 12 shows the number of people involved in decisions question, as shown in the CATI instrument. The CATI image shows the bolded emphasis on the include and exclude statements for this question, in black text, indicating they should be read aloud.

Figure 12: Number of People Involved in Decisions, CATI

Table 50: Summary of Behavior Codes for Number of People Involved in Decisions *(n=49)* [1]

Item/Code	Code Meaning	Percent	Reading Question Text	First Exchange	Final Response
Number of Exchanges			(percent)		
0	Zero exchanges	2.1	-	-	-
1	One exchange	57.1	-	-	-
2	Two exchanges	16.3	-	-	-
3+	Three or more exchanges	24.5	-	-	-
Primary Interview Code					
EW	Exact Wording	-	6.1	-	-
MC	Minor Change	-	10.2	-	-
MM	Major Modification	-	83.7	-	-
DRQV	Did Not Read, Verification	-	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	-	-
SC	Shortcutted	-	0.0	-	-
OTHI	Other	-	0.0	-	-
Secondary Interview Code [2]					
DT	Definitional Text	-	2.0	-	-
RW	Repeated Wording	-	10.2	-	-
TS	Transition Statement	-	6.1	-	-
INTERRPT	Respondent interrupts interviewer	-	2.0	-	-
AC	Additional Commentary	-	6.1	-	-
NONE	No secondary codes present		77.6		
Respondent Behavior Code					
CA	Codable Answer	-	-	28.6	79.6
INC	Incorrect Format	-	-	26.5	2.0
QA	Qualified Answer	-	-	32.7	2.0
CLAR	Request for Clarification	-	-	4.1	0.0
INTERRPT	Interrupted Interviewer	-	-	4.1	0.0
VERNORES	Did Not Respond to Verification	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	0.0	2.0
VERA	Agrees with Verification			0.0	10.2
DK	"Don't know" Response	-	-	0.0	0.0
RF	Refusal	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	2.0	4.1
OTHR	Other	-	-	2.0	0.0

1/ There were no response options for this item, so they were not coded.
2/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 50 shows the summary of the behavior codes for the 'number of people involved in decisions.' In looking at the number of exchanges for this question, 57.1% were administered with one exchange, 16.3% were administered with two exchanges, and 24.5% were administered with three or more exchanges. Zero exchanges were coded for 2.1% of the question administrations, indicating that the question was not asked or not responded to.

In looking at how the 'number of people involved in decisions' question was administered, only 6.1% of 49 administrations were done with *exact wording*, 10.2% of the question administrations had *minor*

changes, and 83.7% were administered with *major modifications*. The current CATI format has the include and exclude statements in black text and bolded, indicating that they should be read. Coders noted that many of the major modifications made by interviewers came from not reading or modifying the include and exclude statements. An example of this is:

> I: Are you the only person that makes decisions for this operation?
> R: Well, I do have a daughter and a wife, but pretty much, yeah.
> I: ok

Although it is not reflected in these coding results, for this question, coders noticed that the few times when the includes and excludes were read, the respondent, and sometimes the interviewer, became confused on who to include. The include and exclude statements were long and repeated the terms "hired manager" and "family members" in both statements, likely contributing to confusion.

The majority (77.6%) of the 49 administrations for this question did not have any secondary codes present, 6.1% had *transition statements* added, 10.2% had *repeated wording*, 6.1% had *additional commentary,* and other secondary codes occurred at 5.0% or less.

For the respondent behavior codes for 'number of people involved in decisions' question, during the first exchange only 28.6% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 79.6% in the final response, because in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format.

During the first exchange, 26.5% of the responses provided were in an *incorrect format*, this lowered to 2.0% in the final response. An example of an incorrect format is:

> I: In 2021, how many people were involved in the decisions for this operation? Family members and hired managers How many people made the decisions for your operation?
> R: Just myself and my wife.
> I: ok, so 2 people

Looking at the other respondent behavior codes, in the first exchange, 32.7% of the responses were *qualified answers*. All other codes occurred 5.0% or less of the time. Providing the include and exclude information prior to the question being asked could help reduce *qualified answers* and *requests for clarification*. In the final exchange, respondents *agreed with the verification* on 10.2% of the responses; all other codes occurred at 5.0% or less (See Table 50).

Recommendations for the 'number of people involved in decisions' question:

1. For the 'number of people involved in decisions' question, remove the include and exclude statements from the required text. In the CATI instrument, this would be done by changing the font to purple text.
    - If the survey sponsor insists on the include and exclude statements being read, there are several ways that this question could be revised to reduce confusion and respondent and interviewer burden:
        - Option 1 - Incorporate the include and exclude statement information earlier into the question stem, to come before the question is asked.
        - Option 2 - Provide specific interviewer instructions in purple, for example "[ENUM] Read include and exclude statements".

3.3.4 Conventional Demographics

This section contains the conventional demographic questions for sex, age, ethnicity, race, military status, and education. With the exception of the 'sex' question, the conventional demographic questions were asked in all versions. Therefore, they were coded for all 49 interviews. The 'sex' question was asked in only versions 1 and 2, so it was coded for 17 interviews. To assess how each question performed, the following were assessed: the number of exchanges it took to get a final response, the way the question was administered (primary and secondary interviewer codes, where applicable), and the respondent behavior. Recommendations are provided after all the findings of all six questions are presented.

3.3.4.1 Sex

Figure 13 shows the 'sex' question as shown in the CATI instrument.

Figure 13: Sex, CATI

What is your sex?

○ 1. Male
○ 2. Female

Table 51: Summary of Behavior Codes for Sex *(n*=17)

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	23.5	-	-	-	-
1	One exchange	47.1	-	-	-	-
2	Two exchanges	17.7	-	-	-	-
3+	Three or more exchanges	11.8	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	35.3	23.5	-	-
MC	Minor Change	-	5.9	5.9	-	-
MM	Major Modification	-	35.3	5.9	-	-
DRQV	Did Not Read, Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	64.7	-	-
SC	Shortcutted	-	23.5	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	5.9	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	0.0	5.9	-	-
AC	Additional Commentary	-	23.5	0.0	-	-
NONE	No secondary codes present		70.6	94.1		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	64.7	70.6
INC	Incorrect Format	-	-	-	0.0	0.0
QA	Qualified Answer	-	-	-	0.0	0.0
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	0.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	5.9	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	29.4	29.4
OTHR	Other	-	-	-	0.0	0.0

[1] Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 51 shows the summary of the behavior codes for the conventional demographic question, 'sex.' In looking at the number of exchanges for the 'sex' question, 47.1% were administered with one exchange, 17.7% were administered with two exchanges, and 11.8% were administered with three or more exchanges. Zero exchanges were coded for 23.5% of the administrations, indicating that the question was not asked or not responded to. These results point to the question potentially being burdensome for the respondent to answer and/or for the interviewer to administer.

In looking at how the 'sex' question was administered, only 35.3% of 17 administrations were done with *exact wording*, 5.9% of the question administrations had *minor changes*, and 35.3% were administered with *major modifications*. There was a high rate of *shortcutting* that occurred, with 23.5% of the administrations, reflecting that interviewers made assumptions about the respondent's sex instead of

asking the question. Coders noted that throughout the interview, some interviewers called respondents "sir" and "ma'am", making the assumption about their sex before this question was asked.

The majority (70.6%) of the question administrations did not have any secondary codes present, 23.5% had *additional commentary* added, and 5.9% had a *transition statement*. No other secondary codes were coded for 'sex.' An example of *additionally commentary* is:

> I: and your sex, I know that sounds crazy, I'm required to read every question.
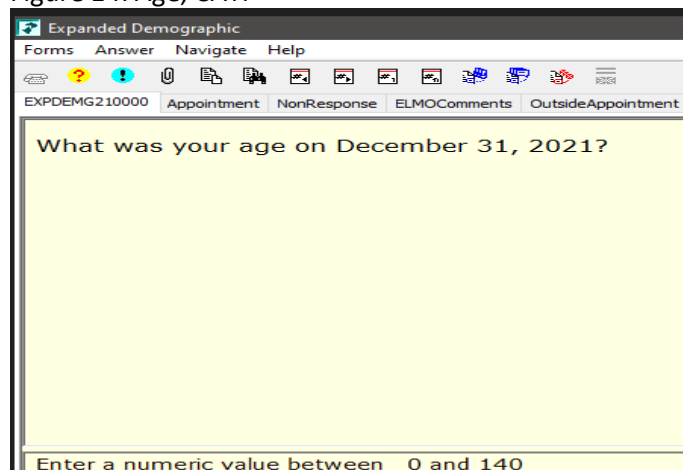> R: Female.
> I: yeah, <laughs> I know

The response options for sex were "male" and "female." For the response options administration for 'sex', only 23.5% were administered with *exact wording*, 5.9% were administered with *minor changes*, and 5.9% had *major modifications*. Most of the time (64.7%) the enumerators *did not read the response options*. Most of the administrations of the response options did not have secondary codes present (94.1%) and the interviewer was *interrupted* during 5.9% of the response option administration. Although the response options were not read over 50% of the time, given that the response options for the 'sex' question are likely well known to most people, this may not indicate a major issue.

In looking at the respondent behavior codes for the 'sex' question, during the first exchange, 64.7% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 70.6% in the final response, with very little back and forth needed to come to a codable answer. The only other respondent behavior codes in the first exchange were 5.9%, who *agreed with the interviewer's verification* for sex, and 29.4% that were not asked or verified (coded as *shortcutted*). (See Table 51).

3.3.4.2 Age

Figure 14 shows 'age' question as shown in the CATI instrument.

Figure 14: Age, CATI

Table 52: Summary of Behavior Codes for Age *(n*=49) [1/]

Item/Code	Code Meaning	Percent	Reading Question Text	First Exchange	Final Response
Number of Exchanges				(percent)	
0	Zero exchanges	0.0	-	-	-
1	One exchange	61.2	-	-	-
2	Two exchanges	16.3	-	-	-
3+	Three or more exchanges	22.5	-	-	-
Primary Interview Code					
EW	Exact Wording	-	46.9	-	-
MC	Minor Change	-	40.8	-	-
MM	Major Modification	-	12.2	-	-
DRQV	Did Not Read, Verification	-	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	-	-
SC	Shortcutted	-	0.0	-	-
OTHI	Other	-	0.0	-	-
Secondary Interview Code[2/]					
DT	Definitional Text	-	0.0	-	-
RW	Repeated Wording	-	8.2	-	-
TS	Transition Statement	-	2.0	-	-
INTERRPT	Respondent interrupts interviewer	-	2.0	-	-
AC	Additional Commentary	-	4.1	-	-
NONE	No secondary codes present		83.7	-	-
Respondent Behavior Code					
CA	Codable Answer	-	-	69.4	93.9
INC	Incorrect Format	-	-	4.1	2.0
QA	Qualified Answer	-	-	4.1	0.0
CLAR	Request for Clarification	-	-	18.4	0.0
INTERRPT	Interrupted Interviewer	-	-	4.1	0.0
VERNORES	Did Not Respond to Verification	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	0.0	0.0
VERA	Agrees with Verification				
DK	"Don't know" Response	-	-	0.0	0.0
RF	Refusal	-	-	0.0	2.0
SC	Shortcutting Occurred	-	-	0.0	2.0
OTHR	Other	-	-	0.0	0.0

1/ Response options were not coded for this item.
2/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 52 shows the summary of the behavior codes for the conventional demographic question, 'age.' In looking at the number of exchanges for this question, 61.2% were administered with one exchange, 16.3% were administered with two exchanges, and 22.5% were administered with three or more exchanges. None were administered with zero exchanges, indicating that this question was asked in every interview. As mentioned previously, the ideal number of exchanges to get a final response would be one (question administered and a codable response). More exchanges can indicate that the question is burdensome to the respondent or for the interviewer to administer. However, for the age questions, coders noted many of the interviews that had more than one exchange were exchanges that were topic-

related, but often occurred after the answer was provided and seemed to be more about rapport building then problems with the question. For example, many exchanges included interviewers and respondents laughing about their age or complimenting each other about how young they sounded. For example:

> I: So what was your age on December 31, 2021?
> R: 71
> I: Girl, no you're not
> R: Yes, ma'am
> I: <laughs> you sound
> R: Born in, 19-. <Interviewer talking at the same time> what? Pardon?
> I: You sound good
> R: I was born on October 23, 1950
> I: Alright then, when were you born?
> R: October 23, 1950
> I: October 23, ok, alright, well you go on with yourself <laughs> You sound super young, that's why I said that.

In looking at how the 'age' question was administered, 46.9% of 49 administrations were done with *exact wording*, 40.8% of the question administrations had *minor changes*, and only 12.2% were administered with *major modifications*.
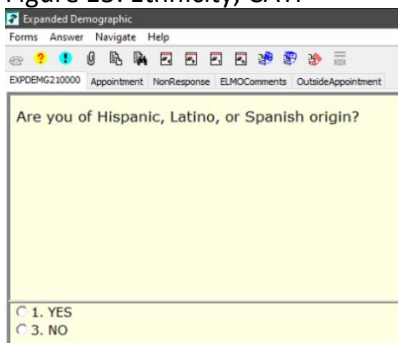
The majority (83.7%) of the question administrations did not have any secondary codes present, 8.2% *repeated the question wording*, and other secondary codes occurred at 5.0% or less. Coders noticed that repeating the reference date was one reason for the question to be repeated.

As far as respondent behavior codes for the 'age' question, during the first exchange, 69.4% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 93.9% in the final response. During the first exchange, 18.4% of the respondents *requested clarification*, often asking to clarify the reference date. Other codes occurred at a rate of less than 5.0%. Just 2.0% of responses were *shortcutted*, with responses not given because the question was not asked or verified and 2.0% refused to answer. (See Table 52).

3.3.4.3 Ethnicity

Figure 15 shows the 'ethnicity' question as shown in the CATI instrument.

Figure 15: Ethnicity, CATI

Table 53: Summary of Behavior Codes for Ethnicity *(n=49)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	6.1	-	-	-	-
1	One exchange	81.6	-	-	-	-
2	Two exchanges	12.2	-	-	-	-
3+	Three or more exchanges	0.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	67.4	4.1	-	-
MC	Minor Change	-	16.3	0.0	-	-
MM	Major Modification	-	10.2	0.0	-	-
DRQV	Did Not Read, Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	95.9	-	-
SC	Shortcutted	-	4.1	0.0	-	-
OTHI	Other	-	2.0	0.0	-	-
Secondary Interview Code[1/]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	4.1	0.0	-	-
TS	Transition Statement	-	2.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	4.1	0.0	-	-
AC	Additional Commentary	-	8.2	0.0	-	-
NONE	No secondary codes present		81.6	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	55.1	81.6
INC	Incorrect Format	-	-	-	16.3	4.1
QA	Qualified Answer	-	-	-	14.3	0.0
CLAR	Request for Clarification	-	-	-	2.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	6.1	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification	-	-	-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	2.0
RF	Refusal	-	-	-	2.0	0.0
SC	Shortcutting Occurred	-	-	-	4.1	12.2
OTHR	Other	-	-	-	0.0	0.0

1/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 53 shows the summary of the behavior codes for the conventional demographic question, 'ethnicity'. In looking at the number of exchanges for this question, 81.6% were administered with one exchange, 12.2% were administered with two exchanges, and none were administered with three or more exchanges. Of note, 6.1% were administered with zero exchanges, indicating that the question was not asked or not responded to.

In looking at how the 'ethnicity' question was administered, 67.7% of 49 administrations were done with *exact wording*, 16.3% had *minor changes*, 10.2% were administered with *major modifications*, 4.1% of the administrations were *shortcutted*, and 2.0% had an *other* code.

None of question administrations had any secondary codes present.

The response options for the ethnicity question were "yes" and "no". For the response options administration for 'ethnicity', only 4.1% were administered with *exact wording* and the rest were *not read and incorrectly skipped*. It may not be important to read response options for this question, given that it is asked as a yes or no question, but given that over 16.3% of initial responses were given in an incorrect format, it may help reduce interviewer burden to read these response options.

For the respondent behavior codes for the 'ethnicity' question, during the first exchange 55.1% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 81.6% in the final response, indicating that interviewers were able to ask follow-up questions, or convert responses, to get to a final response in the correct format in most cases.

Looking at the other respondent behavior codes, in the first exchange, 16.3% of the responses were in an *incorrect format*, this was lowered to 4.1% in the final exchange. Coders noted that many of the incorrect formatted responses were respondents giving their race and/or ethnicity as a response, such as "I am Puerto Rican". Of the first exchange respondent behavior codes, 14.3% were a *qualified response.* Coders noted that similar to the *incorrect format* responses, respondents who *qualified their responses* often did so by providing additional information that was related to race and ethnicity, for example: "No, no, Filipino". The respondent *interrupted the interviewer* in 6.1% of the first exchanges, and all other codes were used less than 5.0% of the time. (See Table 53).

3.3.4.4 Race

Figure 16 shows the 'race' question as shown in the CATI instrument. The CATI image shows the that the note, "select all that apply" was presented in purple text, as optional reading.

Figure 16: Race, CATI

What is your race?

[NOTE] Select all that apply.

☐ 1. White
☐ 2. Black or African American
☐ 3. American Indian or Alaska Native

☐ 4. Asian
☐ 5. Native Hawaiian or Other Pacific Islander

Enter at most 5 values

Table 54: Summary of Behavior Codes for Race *(n=49)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	24.5	-	-	-	-
1	One exchange	55.1	-	-	-	-
2	Two exchanges	10.2	-	-	-	-
3+	Three or more exchanges	10.2	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	46.9	2.0	-	-
MC	Minor Change	-	16.3	4.1	-	-
MM	Major Modification	-	8.2	8.2	-	-
DRQV	Did Not Read, Verification	-	14.3	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	2.0	85.7	-	-
SC	Shortcutted	-	10.2	0.0	-	-
OTHI	Other	-	2.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	4.1	0.0	-	-
TS	Transition Statement	-	4.1	2.0	-	-
INTERRPT	Respondent interrupts interviewer	-	4.1	8.2	-	-
AC	Additional Commentary	-	2.0	2.0	-	-
NONE	No secondary codes present		85.7	89.8		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	34.7	63.3
INC	Incorrect Format	-	-	-	18.4	8.2
QA	Qualified Answer	-	-	-	10.2	0.0
CLAR	Request for Clarification	-	-	-	4.1	0.0
INTERRPT	Interrupted Interviewer	-	-	-	8.2	0.0
VERNORES	Did Not Respond to Verification	-	-	-	2.0	4.1
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	2.0
DK	"Don't know" Response	-	-	-	2.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	18.4	22.5
OTHR	Other	-	-	-	2.0	0.0

1/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 54 shows the summary of the behavior codes for the conventional demographic question, race. In looking at the number of exchanges for this question, only 55.1% were administered with one exchange, 10.2% were administered with two exchanges, and 10.2% were administered with three or more exchanges. Of note, 24.5% were administered with zero exchanges, indicating that the question was not asked or not responded to.

In looking at how the 'race' question was administered, 46.9% of 49 administrations were done with *exact wording*, 16.3% had *minor changes*, 8.2% were administered with *major modifications*, 2.0% *were*

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not read or had responses changed, 10.2% of the administrations were *shortcutted*, and 14.3% were *not read but verified*. Coders observed that many of these *verifications* occurred because the respondent provided their race when they answered the ethnicity question, which was the question immediately before the race question.

Looking at secondary codes, 85.7% of question administrations did not have any secondary codes present and all other secondary codes occurred less than 5.0% of the time.

For the response options administration for 'race', only 2.0% were administered with *exact wording*, 4.1% were administered with *minor changes*, and 8.2% had *major modifications*, and 85.7% were *not read and incorrectly skipped*. As far as secondary codes, the interviewer was *interrupted* during 8.2% of the response option administrations, 2.0% provided *additional commentary*, and 2.0% added a *transition statement*, but most of the administrations of the response options did not have any secondary codes present (89.8%).

Looking at the respondent behavior codes for 'race' question, during the first exchange 34.7% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 63.3% in the final response, after interviewers were able to ask follow-up questions to get to a final response in the correct format. During the first exchange, 18.4% of the responses provided were in an *incorrect format,* this lowered to 8.2% in the final response.
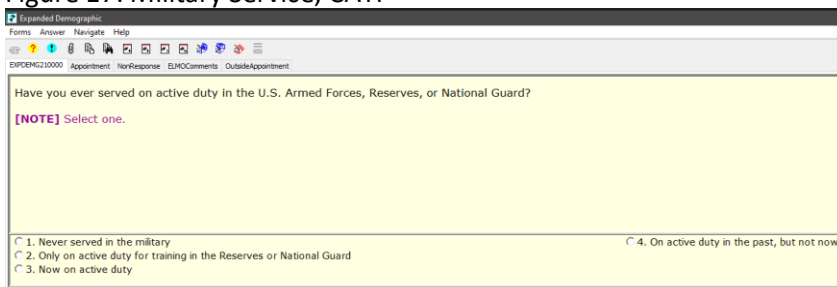
Looking at the other respondent behavior codes, in the first exchange, 8.2 % of the responses were *interrupting the interviewer*, 10.2% provided a *qualified response*, and 18.4% of responses were *shortcutted*. *Shortcutting* occurred at a higher rate for the final response (22.5%) for this question due to the respondent's answers being entered differently by the interviewer into the instrument. Other codes were coded less than 5.0% of the time (See Table 54).

Although not reflected in the coding data, coders noticed that interviewers did not seem to know that they could select more than one race category. In fact, the few times a respondent did indicate that they were of mixed race, the interviewer seemed to choose just one (recall that coders did not have access to the video recordings to determine what the interviewer coded and final data could have been edited, so coders cannot confirm this).

3.3.4.5 Military Service

Figure 17 shows the 'military service' question as shown in the CATI instrument. The CATI image shows the that the note, "select one" was presented in purple text, as optional reading.

Figure 17: Military Service, CATI

Table 55: Summary of Behavior Codes for Military Service *(n*=49)

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	0.0	-	-	-	-
1	One exchange	83.7	-	-	-	-
2	Two exchanges	8.2	-	-	-	-
3+	Three or more exchanges	8.2	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	38.8	0.0	-	-
MC	Minor Change	-	18.4	0.0	-	-
MM	Major Modification	-	42.9	2.0	-	-
DRQV	Did Not Read, Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	98.0	-	-
SC	Shortcutted	-	0.0	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	2.0	0.0	-	-
TS	Transition Statement	-	0.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	12.2	2.0	-	-
AC	Additional Commentary	-	0.0	0.0	-	-
NONE	No secondary codes present		85.7	98.0		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	2.0	89.8
INC	Incorrect Format	-	-	-	73.5	2.0
QA	Qualified Answer	-	-	-	4.1	4.1
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	16.3	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	2.0
VERA	Agrees with Verification			-		
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	0.0	0.0
OTHR	Other	-	-	-	4.1	2.0

1/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 55 shows the summary of the behavior codes for the conventional demographic question, 'military service'. In looking at the number of exchanges for this question, 83.7% were administered with one exchange, 8.2% were administered with two exchanges, and 8.2% were administered with three or more exchanges. None were administered with zero exchanges, indicating that the question was asked to all respondents.

In looking at how the 'military service' question was administered, 38.8% of 49 administrations were done with *exact wording*, 18.4% of the question administrations had *minor changes*, and 42.9% were

administered with *major modifications*. No other primary interview codes were coded for reading the question.

Looking at secondary codes, 85.7% of question administrations did not have any secondary codes present, in 12.2% of the interviews coded the respondent *interrupted the interviewer*, and in 2.0% the interviewer *repeated the question wording*.

This question without the response options sounds like a yes/no question, so the response options for this question are essential for respondents to provide an accurate answer. However, interviewers *did not read the response options* in 98.0% of the coded interviews and the remaining 2.0% has *major modifications*. The only secondary code was 2.0% of the time the respondent *interrupted the interviewer* while the interviewer was reading the response options. The impact of this low rate of reading the response options impacts the respondent's ability to provide a codable answer for this question.
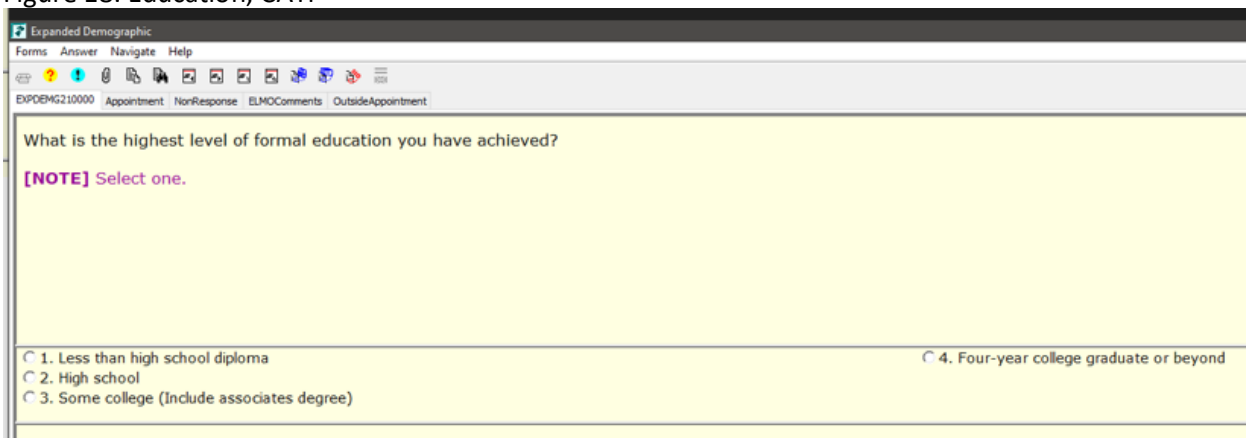
According to the respondent behavior coded, during the first exchange of the 'military service' question, only 2.0% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 89.8% in the final response once the interviewer and respondent discussed further. Had the response options been incorporated into the question, it is likely that the respondent could have provided a more accurate answer in the first exchange.

During the first exchange, 73.5% of the responses provided were in an *incorrect format*, this lowered to 2.0% in the final response. Looking at the other respondent behavior codes, in the first exchange, 16.3 % of the responses were *interrupting the interviewer*, and other codes were coded less than 5.0% of the time. None of these responses were *shortcutted*. (See Table 55).

3.3.4.6 Education

Figure 18 shows the 'education' question as shown in the CATI instrument. The CATI image shows the that the note, "select one" was presented in purple text, as optional reading.

Figure 18. Education, CATI

Table 56: Summary of Behavior Codes for Education *(n=49)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	0.0	-	-	-	-
1	One exchange	63.3	-	-	-	-
2	Two exchanges	26.5	-	-	-	-
3+	Three or more exchanges	10.2	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	46.9	2.0	-	-
MC	Minor Change	-	42.9	22.5	-	-
MM	Major Modification	-	10.2	8.2	-	-
DRQV	Did Not Read, Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	67.4	-	-
SC	Shortcutted	-	0.0	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	4.1	0.0	-	-
TS	Transition Statement	-	0.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	4.1	12.2	-	-
AC	Additional Commentary	-	2.0	0.0	-	-
NONE	No secondary codes present		89.8	87.8		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	22.5	83.7
INC	Incorrect Format	-	-	-	40.8	2.0
QA	Qualified Answer	-	-	-	22.5	2.0
CLAR	Request for Clarification	-	-	-	4.1	0.0
INTERRPT	Interrupted Interviewer	-	-	-	6.1	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	6.1
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	2.0	4.1
OTHR	Other	-	-	-	2.0	2.0

1/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 56 shows the summary of the behavior codes for the conventional demographic question, education. In looking at the number of exchanges for this question, 63.3% were administered with one exchange, 26.5% were administered with two exchanges, and 10.2% were administered with three or more exchanges. None were administered with zero exchanges, indicating that the question was asked in every coded interview.

In looking at how the 'education' question was administered, 46.9% of 49 administrations were done with *exact wording*, 42.9% of the question administrations had *minor changes*, and 10.2% were administered with *major modifications*. These results show that this question was fairly easy for interviewers to read.

The majority (89.8%) of the 49 administrations for this question did not have any secondary codes present, 4.1% had repeated wording, 4.1% had the respondent interrupt the interviewer, and 2.0% had additional commentary.

The response options for this question were "less than high school diploma," "high school," "some college (include associates degree)," and "four-year college graduate or beyond." For the response options administration for 'education', only 2.0% were administered with *exact wording*, 22.5% were administered with *minor changes*, and 8.2% had *major modifications*. A total of 67.4% were *not read and incorrectly skipped*. As far as secondary codes, the interviewer was *interrupted* during 12.2% of the response option administrations, while the remaining administrations of the response options did not have any secondary codes present (87.8%).

For the respondent behavior codes for the 'education' question, during the first exchange only 22.5% of the responses given were in a *codable format* that matched the response options in the questionnaire. This changed to 83.7% in the final response, after interviewers were able to ask follow-up questions and/or read the response options to get to a final response in the correct format. During the first exchange, 40.8% of the responses provided were in an *incorrect format*, this lowered to 2.0% in the final response. Responses were coded as *incorrect format* when the respondent answers the question in a format that is different than the response options provided. This rate was lowered between first and final exchanges because for many instances, the interviewer could reasonably place into the incorrectly formatted question into the existing response options. An example of this is:

> I: And what is the highest level of formal education you achieved?
> R: University
> I: 4-year college degree?
> R: Yes, yes

Looking at the other respondent behavior codes, in the first exchange, 22.5% of the responses were *qualified answers*, 6.1% of the responses were *interrupting the interviewer*, and other codes for the first exchange were coded less than 5.0% of the time. *Shortcutting* occurred in 2.0% of the administrations, where a response was entered different than what the respondent gave. In the final exchange, 6.1% of the responses were the respondent *agreeing with verification*, all other codes occurred less than 5.0% of the time.

Coders noticed that although the response options were almost never administered with *exact wording* or *minor changes*, respondents' answers were easy for interviewers to code with only one or two exchanges. The assumption is that the answer categories are easily understood, and match categories commonly used for reporting education level.

3.3.4.7 Recommendations for the Conventional Demographic Questions

1. For the 'sex' question, if survey sponsors want interviewers to ask this question instead of making assumptions about a person's sex, we suggest emphasizing the importance of asking all questions in the instrument in interviewer training.

2. Given the high amount of shortcutting for the 'sex' question, a scripted transition statement could be added prior to asking demographic questions, which could explicitly tell the respondent

that all questions will be asked. For example, "The next section will ask demographic questions about people involved in decisions for this operation. This may include questions that seem obvious to you, but I am required to read all of the questions."

3. Test a combined race' and 'ethnicity' question. This is currently being considered and tested at the federal government level, facilitated by the Interagency Technical Working Group on Race and Ethnicity (Statistical Policy Directive 15).

4. If the 'race' and 'ethnicity' questions are kept separate, consider adding the response options into the 'ethnicity' question, for example "Are you of Hispanic, Latino, or Spanish origin, yes or no?"

5. For the 'race' question, make is clear to interviewers and respondents that they should select all races that apply. This could be done by putting that instruction in black text in the CATI script and incorporating it into the question.

6. For the 'race' question, emphasize to interviewers that they should read all of the answer categories. This can be done by incorporating the categories into the question, such as "I am going to read you five race categories. I will then ask you which of those categories apply to you. The categories are White, Black or African American, American Indian or Alaska Native, Asian, and Native Hawaiian or Pacific Islander. Given those categories, what is your race? You may select more than one."

7. Re-word and/or re-format the 'military service' question by doing one of the following:
   - Divide the question into multiple questions: Have you ever served in the U.S miliary? If yes, then ask "Which of the following best describes your military service? Only on active duty for training in the Reserves or National Guard, Now on active duty, or On active duty in the past, but not now?"
   - Incorporate the response options into the question.
     - Example 1: "Have you ever served on active duty in the U.S. military? Please answer one of the following: never served in the military, only on active duty for training in the U.S Armed Forces, Reserves, or National Guard, now on active duty or on active duty in the past, but not now?
     - Example 2: the question could be asked as "Which of the following best describes your miliary service? Never served in the military, only on active duty for training in the U.S Armed Forces, Reserves, or National Guard, now on active duty, or on active duty in the past, but not now?"

3.3.5 Producer Characteristics

This group of questions asked about producer characteristics that are not conventional demographic questions, including occupation status (farm or non-farm), days worked off the farm, the year the person started operating ANY operation, the year they started operating THIS operation, and three decision making questions – day-to-day decisions, land use decisions, and livestock decisions.
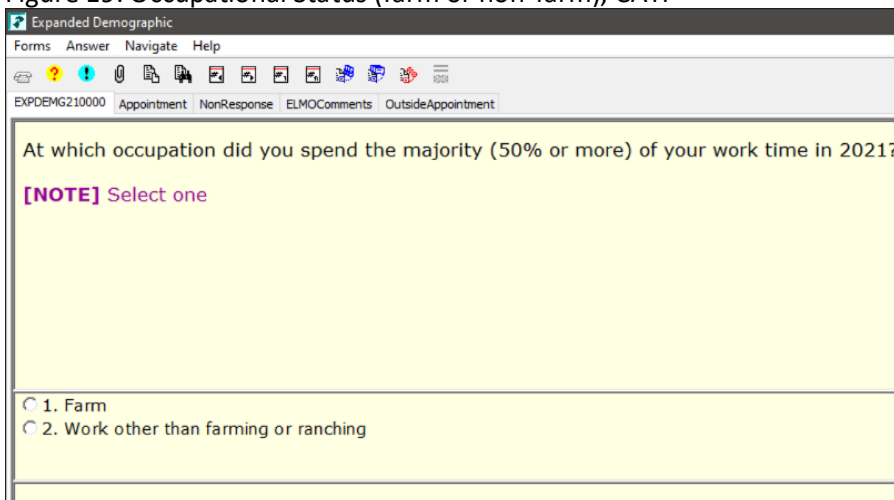
To assess how each question performed, the following will be assessed: the number of exchanges it took to get a final response, the way the question was administered (primary and secondary interviewer codes, where applicable), and the respondent behavior on the first and final exchange.

Recommendations are provided after all the findings of all seven questions are presented.

3.3.5.1 Occupation status (farm or non-farm)

'Occupational status (farm or non-farm)' was asked in only in versions 1 and 2 of the CATI instruments. Therefore, this statement was coded for 17 interviews. Figure 19 shows the occupational status as shown in the CATI instrument. The CATI image shows the that the note, 'select one' was presented in purple text, as optional reading.

Figure 19: Occupational Status (farm or non-farm), CATI

Table 57: Summary of Behavior Codes for Occupation Status (farm or non-farm) *(n*=17)

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	0.0	-	-	-	-
1	One exchange	58.8	-	-	-	-
2	Two exchanges	29.4	-	-	-	-
3+	Three or more exchanges	11.8	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	29.4	11.7	-	-
MC	Minor Change	-	41.2	58.8	-	-
MM	Major Modification	-	29.4	29.4	-	-
DRQV	Did Not Read, Verification	-	0.0	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	0.0	-	-
SC	Shortcutted	-	0.0	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	5.9	0.0	-	-
TS	Transition Statement	-	5.9	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	0.0	11.8	-	-
AC	Additional Commentary	-	0.0	0.0	-	-
NONE	No secondary codes present		88.2	88.2	-	-
Respondent Behavior Code						
CA	Codable Answer	-	-	-	29.4	70.6
INC	Incorrect Format	-	-	-	35.3	17.7
QA	Qualified Answer	-	-	-	23.5	0.0
CLAR	Request for Clarification	-	-	-	5.9	0.0
INTERRPT	Interrupted Interviewer	-	-	-	5.9	0.0
VERNORES	Did Not Respond to Verification	-	-	-	0.0	5.9
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	5.9
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	0.0	0.0
OTHR	Other	-	-	-	0.0	0.0

1/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 57 shows the summary of the behavior codes for the producer characteristic question, 'occupation status (farm or non-farm).' In looking at the number of exchanges for this question, 58.8% of the administrations were done in one exchange, 29.4% were administered with two exchanges, and 11.8% were administered with three or more exchanges. None were administered with zero exchanges, indicating that the question was asked in every coded interview.

In looking at how the 'occupation (farm or non-farm) question' question was administered, 29.4% of question administrations were done with *exact wording*, 41.2% had *minor changes*, and 29.4% were administered with *major modifications*. Coders noticed that the reason for many of the *minor changes* or *major modifications*, were due to the text in paratheses "50% or more" being modified or omitted entirely.

The majority of the administrations for this question did not have any secondary codes present (88.2%), 5.9% had a *transition statement*, and 5.9% had *repeated wording*.

For the response options administration for 'occupation (farm or non-farm) question', only 11.7% of the response options were read with *exact wording*, 58.8% had *minor modifications* and 29.4% had *major modifications.* Coders noted that many of the *minor* and *major modifications* were due to the second response option, "work other than farming or ranching" being altered. For example, omitting "or ranching" or just asking about farming or "something else". Respondents *interrupted the interviewer* in 11.8% of the administrations of response options.

The respondent behavior codes for the "occupation (farm or non-farm)" question show that during the first exchange only 29.4% of the responses given were in a *codable format* that matched the response options in the questionnaire. This could be due to confusion about what the "majority" of work time meant, when "50% or more" was not read aloud. For the final response, this changed to 70.6% of responses being a *codable answer,* in some instances interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

During the first exchange, 35.3% of the responses provided were in an *incorrect format*, this lowered to 17.7% in the final response. Responses were coded as *incorrect format* when the respondent answers the question in a format that is different than the response options provided, for example, some respondents gave an actual occupation, like "construction work" as a response. This rate was lowered between first and final exchanges because for many responses, the interviewer could reasonably place into the incorrectly formatted response into the existing response options.

Looking at the other respondent behavior codes, in the first exchange, 23.5% provided a *qualified answer*, 5.9% *interrupted the interviewer* and 5.9% *requested clarification*. Coders noted that the qualified responses often were related to the actual number of hours. In the final exchange, 5.9% *did not respond to verification* and 5.9% *agreed with verification* (See Table 57).

3.3.5.2 Days Worked Off the Farm

'Days worked off the farm' was asked only in versions 1 and 2 of the CATI instrument. Therefore, this statement was coded for 17 interviews. Figure 20 shows the 'days worked off the farm' question as shown in the CATI instrument. The CATI image shows the that the note, "select one" was presented in purple text, as optional reading. The CATI image shows the bolded emphasis on the two include statements for this question, in black text, indicating they should be read aloud.

Figure 20: Days Worked off the Farm, CATI

Table 58: Summary of Behavior Codes for Days Worked Off Farm *(n*=17) [1]

Item/Code	Code Meaning	Percent	Reading Question Text	First Exchange	Final Response
Number of Exchanges			(percent)		
0	Zero exchanges	0.0	-	-	-
1	One exchange	47.1	-	-	-
2	Two exchanges	29.4	-	-	-
3+	Three or more exchanges	23.5	-	-	-
Primary Interview Code					
EW	Exact Wording	-	17.7	-	-
MC	Minor Change	-	5.9	-	-
MM	Major Modification	-	76.5	-	-
DRQV	Did Not Read, Verification	-	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	-	-
SC	Shortcutted	-	0.0	-	-
OTHI	Other	-	0.0	-	-
Secondary Interview Code[2]					
DT	Definitional Text	-	0.0	-	-
RW	Repeated Wording	-	5.9	-	-
TS	Transition Statement	-	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	0.0	-	-
AC	Additional Commentary	-	11.8	-	-
NONE	No secondary codes present		82.4		
Respondent Behavior Code					
CA	Codable Answer	-	-	23.5	58.8
INC	Incorrect Format	-	-	23.5	5.9
QA	Qualified Answer	-	-	17.7	0.0
CLAR	Request for Clarification	-	-	17.7	0.0
INTERRPT	Interrupted Interviewer	-	-	0.0	0.0
VERNORES	Did Not Respond to Verification	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	0.0	5.9
VERA	Agrees with Verification			11.8	29.4
DK	"Don't know" Response	-	-	0.0	0.0
RF	Refusal	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	0.0	0.0
OTHR	Other	-	-	5.9	0.0

[1] Response options were not coded for this item.

[2] Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 58 shows the summary of the behavior codes for the producer characteristic question, days worked off farm. In looking at the number of exchanges for this question, 47.1% of the administrations were done in one exchange, 29.4% were administered with two exchanges, and 23.5% were administered with three or more exchanges. None were administered with zero exchanges, indicating that the question was asked in every coded interview.

In looking at how the 'days worked off farm' question was administered, only 17.7% of question administrations were done with *exact wording*, 5.9% of the question administrations had *minor changes*, and 76.5% were administered with *major modifications*. Coders noticed that the main reason for the high rate of major modifications was that the include statements were heavily modified or omitted entirely.

The majority (82.4%) of the administrations for this question did not have any secondary codes present, 11.8% had *additional commentary*, and 5.9% had *repeated wording*. Response options were not coded for this question.

The respondent behavior codes for 'days worked off farm' question show that during the first exchange only 23.5% of the responses given were in a *codable format* that matched the response options in the questionnaire. This was due in part to interviewers needing to probe to provide more details about numeric ranges available. For the final response, this changed to 58.8% of responses being a *codable answer,* this was because interviewers were able to ask follow-up questions to get to a final response in the correct format or convert responses to a codable format.

During the first exchange, 23.5% of the responses provided were in an *incorrect format*, this lowered to 5.9% in the final response. Responses were coded as *incorrect format* when the respondent answers the question in a format that is different than the response options provided, for example, some interviewers started by giving a range of days, like 100 or more, and respondents would respond 'yes' or 'no'.
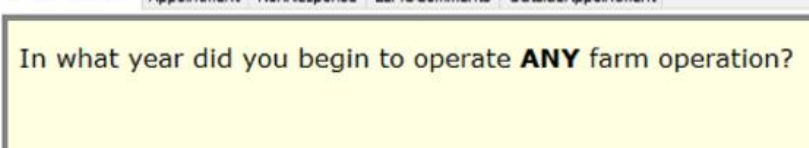
Looking at the other respondent behavior codes, in the first exchange, 17.7% provided a *qualified answer,* 17.7% *requested clarification*, 11.8% *agreed with a verification* and 5.9% were coded as *other*. In the final exchange, 29.4% *agreed with verifications* (See Table 58). An example of this is:

> I: How many days did you work off the farm in 2021? Do you have an idea?
> R: Um, whatever the weekends, um, subtract the weekends I guess
> I: OK um, 52 weeks a year, so '200 days or more', does that sound about right?
> R: Yep

3.3.5.3 Year Began Operating Any Farm

'Year began operating any farm' was asked only in versions 1, 3, and 5 of the CATI instrument. Therefore, this statement was coded for 24 interviews. Figure 21 shows 'year began operating any farm' as shown in the CATI instrument. The CATI image shows the bolded emphasis on the word "any".

Figure 21: Years Began Operating Any Farm, CATI

In what year did you begin to operate **ANY** farm operation?

Table 59: Summary of Behavior Codes for Year Began Operating Any Farm *(n=24)* [1]

Item/Code	Code Meaning	Percent	Reading Question Text	First Exchange	Final Response
Number of Exchanges			(percent)		
0	Zero exchanges	4.2	-	-	-
1	One exchange	33.3	-	-	-
2	Two exchanges	29.2	-	-	-
3+	Three or more exchanges	33.3	-	-	-
Primary Interview Code					
EW	Exact Wording	-	41.7	-	-
MC	Minor Change	-	25.0	-	-
MM	Major Modification	-	25.0	-	-
DRQV	Did Not Read, Verification	-	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	-	-
SC	Shortcutted	-	4.2	-	-
OTHI	Other	-	4.2	-	-
Secondary Interview Code [2]					
DT	Definitional Text	-	0.0	-	-
RW	Repeated Wording	-	8.3	-	-
TS	Transition Statement	-	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	4.2	-	-
AC	Additional Commentary	-	8.3	-	-
NONE	No secondary codes present		79.2		
Respondent Behavior Code					
CA	Codable Answer	-	-	12.5	54.2
INC	Incorrect Format	-	-	4.2	4.2
QA	Qualified Answer	-	-	37.5	16.7
CLAR	Request for Clarification	-	-	16.7	0.0
INTERRPT	Interrupted Interviewer	-	-	4.2	0.0
VERNORES	Did Not Respond to Verification	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	0.0	4.2
VERA	Agrees with Verification			0.0	4.2
DK	"Don't know" Response	-	-	12.5	4.2
RF	Refusal	-	-	4.2	4.2
SC	Shortcutting Occurred	-	-	4.2	4.2
OTHR	Other	-	-	4.2	4.2

1/ Response options were not coded for this item.

2/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 59 shows the summary of the behavior codes for the producer characteristic question, 'year operating any farm.' In looking at the number of exchanges for this question, 33.3% of the administrations were done in one exchange, 29.3% were administered with two exchanges and 33.3% were administered with three or more exchanges. Of note, 4.2% were administered with zero exchanges, indicating that the question was not asked or not responded to.

In looking at how the 'year operating any farm' question was administered, 41.7% of question administrations were done with *exact wording,* 25.0% of the question administrations had *minor changes,* and 25.0% were administered with *major modifications*. Coders noticed that the main reason for the high rate of *major modifications* was because the include statements were heavily modified or omitted entirely. Coders noted a variety of modifications that were made to this question, including sometimes combining this question with information from the subsequent question about the current operation or substituting the word "operate" with "work" or "working."

The majority (79.2%) of the administrations for this question did not have any secondary codes present, 8.3% had *additional commentary*, 8.3% had *repeated wording*, and 4.2% had respondents *interrupting the interviewer.* Response options were not coded for this question as the response was supposed to be a numeric year.

The respondent behavior codes for 'year operating any farm' question show that during the first exchange only 12.5% of the responses given were in a *codable format* that matched the response of a numeric value. This was due in part to interviewers needing to probe to provide more details about the specific year. Respondents often indicated difficulty thinking about the exact year they began operating a farm. For example:

> I: OK sir, in what year did you begin to operate any farm operation?
> R: Um, oh, man, I've been I've been farming all my life you know, really
> I: OK, so when did you start operating, making the decisions.
> R: Oh, well, hm shoot, um, that's probably back in the 90s, I would say. To be the exact date, I couldn't tell ya, you know what I'm saying, but you know it was in the 90s…

For the final response, the percentage changed to 54.2% of responses being a *codable answer*, after interviewers ask follow-up questions.

During the first exchange, 4.2% of the responses provided were in an *incorrect format*, this stayed the same for the final response. Responses were coded as *incorrect format* when the respondent answers the question in a format that is different than the response options provided, for example, some respondents started by a broad time frame, like "the 90's." Similarly, there was high rate of *qualified responses* in the first exchange, 37.5%. Respondents often explained why they were having difficulty recalling an exact year. This rate was lowered to 16.7% for the final exchange due to interviewers asking additional questions.

Looking at the other respondent behavior codes, in the first exchange, 16.7% *requested clarification*, and 12.5% said that they *did not know*. All other codes occurred less than 5.0% of the time for the first exchange. In the final exchange, all other codes occurred at 5.0% or less (See Table 59).

3.3.5.4 Year Began Operating This Farm

The 'year began operating this farm' question was asked in only in versions 1, 3, and 5 of the CATI instrument. Therefore, this statement was coded for 24 interviews. Figure 22 shows 'year began operating this farm' as shown in the CATI instrument. The CATI image shows the bolded emphasis on the word "this."

Figure 22: Years Began Operating This Farm, CATI

> In what year did you begin to operate any part of **THIS** operation?

Table 60: Summary of Behavior Codes for Year Began Operating This Farm *(n=24)* [1]

Item/Code	Code Meaning	Percent	Reading Question Text	First Exchange	Final Response
Number of Exchanges			(percent)		
0	Zero exchanges	8.3	-	-	-
1	One exchange	29.2	-	-	-
2	Two exchanges	29.2	-	-	-
3+	Three or more exchanges	33.3	-	-	-
Primary Interview Code					
EW	Exact Wording	-	25.0	-	-
MC	Minor Change	-	16.7	-	-
MM	Major Modification	-	41.7	-	-
DRQV	Did Not Read, Verification	-	4.2	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	-	-
SC	Shortcutted	-	8.3	-	-
OTHI	Other	-	4.2	-	-
Secondary Interview Code[1]					
DT	Definitional Text	-	0.0	-	-
RW	Repeated Wording	-	12.5	-	-
TS	Transition Statement	-	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	4.2	-	-
AC	Additional Commentary	-	20.8	-	-
NONE	No secondary codes present		66.7		
Respondent Behavior Code					
CA	Codable Answer	-	-	12.5	33.3
INC	Incorrect Format	-	-	12.5	0.0
QA	Qualified Answer	-	-	16.7	16.7
CLAR	Request for Clarification	-	-	16.7	0.0
INTERRPT	Interrupted Interviewer	-	-	8.3	0.0
VERNORES	Did Not Respond to Verification	-	-	0.0	0.0
VERACORR	Corrected Verification	-	-	0.0	0.0
VERA	Agrees with Verification			12.5	29.2
DK	"Don't know" Response	-	-	0.0	0.0
RF	Refusal	-	-	4.2	4.2
SC	Shortcutting Occurred	-	-	8.3	12.5
OTHR	Other	-	-	8.3	4.2

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 60 shows the summary of the behavior codes for the producer characteristic question, year began operating this farm. In looking at the number of exchanges for this question, only 29.2% of the administrations were done in one exchange, 29.2% were administered with two exchanges and 33.3% were administered with three or more exchanges. Of note, 8.3% were administered with zero exchanges, indicating that the question was not asked or not responded to.

In looking at how the 'year began operating this farm' question was administered, only 25.0% of question administrations were done with *exact wording*, 16.7% of the question administrations had *minor changes*, and 41.7% were administered with *major modifications*. Coders noticed that the main reason for the high rate of *major modifications* was interviewers including information from the previous question, for example asking if the response to the 'year began operating any farm' was the same for 'year began operating this farm':

> I: Now, this operation. Was it the same year?
> R: No, um,
> I: No?
> R: I took over in, this would be my 4th season, so then
> I: OK, so we have 2018?

Shortcutting occurred in 8.3% of the administrations, meaning that the interviewer did not ask the question or verify information, or changed a response given by a respondent. Other codes occurred less than 5.0% of the time.

Many of the administrations (66.7%) for this question did not have any secondary codes present, 20.8% had *additional commentary*, and 12.5% had *repeated wording*. Coders noted that one reason for the high rate of *additional commentary* was respondents being confused about the differences between the previous question (year began operating any operation) and this question (year began operating this operation). An example of this is:

> I: And in what year did you begin to operate any part of this operation?
> R: I don't understand the question
> I: In what year did you begin to operate any part of the current operation? <R interrupts>
> R: yeah, 2018
> I: that you and your husband < respondent interrupts>
> I: same year, ok thank you ma'am
> R; no, 2018, only three years
> I: 2018

In at least one instance an interviewer also indicated difficulty differentiating between the two questions, for example:

> I: ok, in what year did you begin to operate any parts of this operation? That sounds like the same question.
> R: Same year
> I: ok, so ok.

Response options were not coded for this question as the response was supposed to be a numeric year.

The respondent behavior codes for 'year began operating this farm' question show that during the first exchange only 12.5% of the responses given were in a *codable format* that matched the response options in the questionnaire, which increased to 33.3% in the final exchange. During the first exchange, 12.5% of the responses provided were in an *incorrect format*, this lowered to 0% in the final response. Responses were coded as *incorrect format* when the respondent answers the question in a format that is different than the response options provided, for example, some interviewers started by a broad time

frame, like the 90's. Coders also noted that in some instances, respondents would just respond that it was the same year as the previous question (year began operating any farm). For example,

> I: and what year did you begin operating this farm that you're operating now?
> R: ah, same, same year, same

Looking at the other respondent behavior codes in the first exchange, 16.7% provided a *qualified answer*, 16.7% *requested clarification*, 12.5% *agreed with a verification*, 8.3 of the responses were *shortcutted*, 8.3% were coded as *other*, and 4.2% *refused* to answer the question.

In the final exchange, 29.2% *agreed with verifications*, 16.7% gave a *qualified response*, 4.2% *refused*, and 12.5% *shortcutted*. *Shortcutting* was higher in the final exchange due to interviewers entering a response different from what was given by the respondent. For example:

> I: and what year did you begin to operate any part of this operation?
> I: the first question was any farm operation, so any farm at all. And then the second one your current your current operation when did you start? Is it the same year, 1964?
> R: No, I used to have a farm, but ah I got rid of ah most of the farmland
> I: Ok. Ok. alright. <final data shows 1964 entered for both>

3.3.5.5 Decision Making Questions

The FPS contained three decision making questions that asked about day-to-day decisions, land use decisions, and livestock decisions. Although these questions may seem easy to answer on paper, they were not easy for interviewers to administer over the phone, for a variety of reasons. On the FPS, all personal characteristics questions were asked for only one person. If that person was the only person involved in decisions, all of the decision-making questions could have seemed illogical to the interviewer to ask and to the respondent to answer. In addition, an introductory statement at the beginning of the section informed respondents that the questions should only be asked for a person involved in decisions for the operations. This made the day-to-day decision question particularly problematic. In fact, they are three of the questions with the most codes marked with major modification (MM) and shortcutted (SC).

Recommendations are provided after all the findings for the producer characteristic questions are presented.

3.3.5.5.1 Day-to-day Decisions

'Day-to-day decisions' was asked in only in versions 1, 3, and 5 of the CATI instrument. Therefore, this statement was coded for 24 interviews. Figure 23 shows the 'day-to-day decisions' question as shown in the CATI instrument.

Figure 23: Day-to-Day Decisions, CATI

Table 61: Summary of Behavior Codes for Day-to-day Decisions (*n*=24)

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	37.5	-	-	-	-
1	One exchange	58.3	-	-	-	-
2	Two exchanges	4.2	-	-	-	-
3+	Three or more exchanges	0.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	29.2	0.0	-	-
MC	Minor Change	-	20.8	0.0	-	-
MM	Major Modification	-	25.0	0.0	-	-
DRQV	Did Not Read, Verification	-	4.2	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	4.2	100	-	-
SC	Shortcutted	-	16.7	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	0.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	8.3	0.0	-	-
AC	Additional Commentary	-	8.3	0.0	-	-
NONE	No secondary codes present		83.3	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	41.7	58.3
INC	Incorrect Format	-	-	-	0.0	4.2
QA	Qualified Answer	-	-	-	8.3	0.0
CLAR	Request for Clarification	-	-	-	4.2	0.0
INTERRPT	Interrupted Interviewer	-	-	-	8.3	0.0
VERNORES	Did Not Respond to Verification	-	-	-	8.3	12.5
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	29.2	25.0
OTHR	Other	-	-	-	0.0	0.0

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 61 shows the summary of the behavior codes for the producer characteristic question, 'day-to-day decisions.' On the FPS, personal characteristics questions were asked for only one person. In addition, an introductory statement at the beginning of the section informed respondents that these questions should be filled out by a person involved in decisions for the operation. This made the day-to-day question problematic.

In looking at the number of exchanges for the 'day-to-day decisions' question, 58.3% were administered with one exchange, 4.2% were administered with two exchanges, and none were administered with three or more exchanges. For this question, 37.5% were administered with zero exchanges, indicating that the question was not asked or not responded to.

In looking at how the 'day-to-day decisions' question was administered, only 29.2% of 24 administrations were done with *exact wording*, 20.8% of the question administrations had *minor changes,* and 25.0% were administered with *major modifications*, and 16.7% were coded as *shortcutted*. Other codes were coded less than 5.0% of the time. This was one of three questions coded that had higher than 15.0% coded as *shortcutted*. As discussed earlier, the instructional statement at the beginning of this section instructed the respondent that these questions should be answered by someone who is involved in decisions for the operation, so this question appeared to interviewers as a duplicate question. Specifically, "involved in decisions" and "make day-to-day decisions" were often interpreted as the same concept. Interviewers also commented on this aloud to respondents, for example:

> I: Are you involved in making day to day decisions in this operation…well yeah, some of these questions baffle me because we already said we …....
> I: Are you do make decisions, you already told me that…

The response options for this question were "yes" and "no." These response options were never read to respondents in these coded interviews. Reading response options for some questions is arguable more important than others. Not reading the response options in this question is likely not problematic.

During the first exchange, 29.2% of records were coded as *shortcutted*. Looking at the other respondent behavior codes, in the first exchange, 8.3% of the responses were *qualified answers*, 4.2% *requested clarification*, 8.3% *did not response to the interviewer's verification*, and 8.3% of the responses were *interrupting the interviewer*. In the final exchange, 25.0% of the administrations were *shortcutted* and in 12.5% of the administrations the respondent *did not respond to the interviewer's verification*. All other codes occurred at 5.0% or less. No cases were coded with secondary codes.

The behavior coding for this question shows that it was problematic for interviewers to ask. As stated earlier, coders noticed that this question appeared to be a duplicate question to many interviewers as it covered what appeared to be the same content as the introductory statement, which asked about persons "involved in decisions". Therefore, it seemed obvious to interviewers that the answer was "yes" and that this question was redundant.

3.3.5.5.2 Land Use Decisions

'Land use decisions' was asked in only in versions 1, 3, and 5 of the CATI instrument. Therefore, this statement was coded for 24 interviews. Figure 24 shows the 'land use decisions' question as shown in the CATI instrument.

Figure 24. Land Use Decisions, CATI

Are you involved in land use and/or crop decisions, including planting, crop spraying, or other, e.g., grazing?

○ 1. YES
○ 3. NO

Table 62: Summary of Behavior Codes for Land Use Decisions *(n=24)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	16.7	-	-	-	-
1	One exchange	70.8	-	-	-	-
2	Two exchanges	8.3	-	-	-	-
3+	Three or more exchanges	4.2	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	16.7	0.0	-	-
MC	Minor Change	-	20.8	0.0	-	-
MM	Major Modification	-	45.8	0.0	-	-
DRQV	Did Not Read, Verification	-	4.2	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	100	-	-
SC	Shortcutted	-	12.5	0.0	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	4.2	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	16.7	0.0	-	-
AC	Additional Commentary	-	8.3	0.0	-	-
NONE	No secondary codes present		70.8	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	45.8	70.8
INC	Incorrect Format	-	-	-	0.0	0.0
QA	Qualified Answer	-	-	-	4.2	0.0
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	25.0	0.0
VERNORES	Did Not Respond to Verification	-	-	-	4.2	4.2
VERACORR	Corrected Verification	-	-	-	4.2	0.0
VERA	Agrees with Verification			-	0.0	4.2
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	12.5	12.5
OTHR	Other	-	-	-	4.2	8.3

1/ Percentage may not sum to 100% since multiple secondary codes can exist on the same record.

Table 62 shows the summary of the behavior codes for the producer characteristic question, 'land use decisions.' In looking at the number of exchanges for this question, 70.8% were administered with one exchange, 8.3% were administered with two exchanges, and 4.2% were administered with three or more exchanges. For this question, 16.7% were administered with zero exchanges, indicating that the question was not asked or not responded to.

In looking at how the 'land use decisions' question was administered, only 16.7% of 24 administrations were done with *exact wording*, 20.8% of the question administrations had *minor changes*, 45.8% were administered with *major modifications*, and 12.5% were coded as *shortcutted*. Other codes accounted for less than 5.0% of the interviews. No cases were coded with secondary codes. This question has "e.g. grazing" as part of the question. It is unclear to coders how an interviewer is supposed to read this part of the question.

The response options for this question were "yes" and "no." These response options were never read to respondents in these coded interviews. Reading response options for some questions is arguable more important than others. Not reading the response options in this question is likely not problematic.
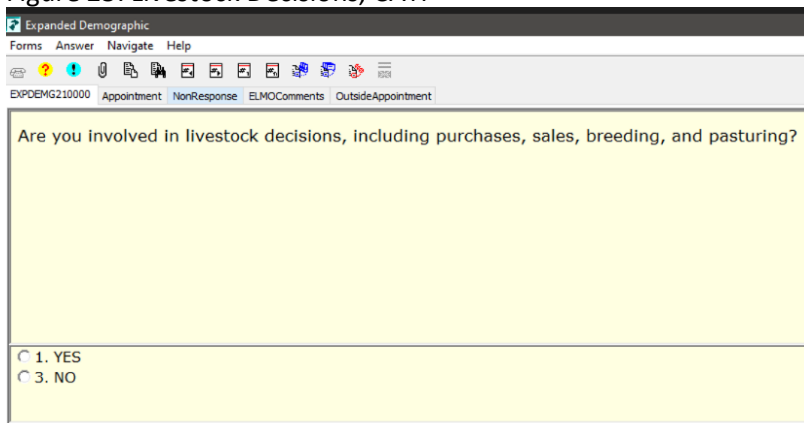
During the first exchange, 45.8% provided a *codable response*. This increased to 70.8% for the final response. In addition, 12.5% of records were *shortcutted* in the first exchange, which remained unchanged by the final response. Looking at the other respondent behavior codes, in the first exchange, 25.0% of the responses were *interrupting the interviewer* and other codes were coded less than 5.0% of the time. This is likely because the first part of the question is "are you involved in land use and/or crop decisions," which could stand on its own. In the final exchange, 8.3% were coded as *other*.

The behavior coding for this question shows that it was problematic for interviewers to ask.

3.3.5.5.3 Livestock Decisions

'Livestock decisions' was asked in only in versions 1, 3, and 5 of the CATI instrument. Therefore, this question was coded for 24 interviews. Figure 25 shows the 'livestock decisions' question as shown in the CATI instrument.

Figure 25: Livestock Decisions, CATI

Table 63: Summary of Behavior Codes for Livestock Decisions *(n=24)*

Item/Code	Code Meaning	Percent	Reading Question Text	Reading Response Options	First Exchange	Final Response
			(percent)			
Number of Exchanges						
0	Zero exchanges	16.7	-	-	-	-
1	One exchange	66.7	-	-	-	-
2	Two exchanges	16.7	-	-	-	-
3+	Three or more exchanges	0.0	-	-	-	-
Primary Interview Code						
EW	Exact Wording	-	37.5	0.0	-	-
MC	Minor Change	-	12.5	0.0	-	-
MM	Major Modification	-	41.7	0.0	-	-
DRQV	Did Not Read, Verification	-	0.0	0.0	-	-
SC	Shortcutted	-	8.3	0.0	-	-
DRIS	Did Not Read, Incorrectly Skipped	-	0.0	100	-	-
OTHI	Other	-	0.0	0.0	-	-
Secondary Interview Code[1]						
DT	Definitional Text	-	0.0	0.0	-	-
RW	Repeated Wording	-	0.0	0.0	-	-
TS	Transition Statement	-	0.0	0.0	-	-
INTERRPT	Respondent interrupts interviewer	-	12.5	0.0	-	-
AC	Additional Commentary	-	8.3	0.0	-	-
NONE	No secondary codes present		79.2	100		
Respondent Behavior Code						
CA	Codable Answer	-	-	-	54.2	70.8
INC	Incorrect Format	-	-	-	8.3	0.0
QA	Qualified Answer	-	-	-	4.2	4.2
CLAR	Request for Clarification	-	-	-	0.0	0.0
INTERRPT	Interrupted Interviewer	-	-	-	12.5	0.0
VERNORES	Did Not Respond to Verification	-	-	-	4.2	4.2
VERACORR	Corrected Verification	-	-	-	0.0	0.0
VERA	Agrees with Verification			-	0.0	0.0
DK	"Don't know" Response	-	-	-	0.0	0.0
RF	Refusal	-	-	-	0.0	0.0
SC	Shortcutting Occurred	-	-	-	8.3	12.5
OTHR	Other	-	-	-	8.3	8.3

1/ Percentages may not sum to 100% since multiple secondary codes can exist on the same record.

Table 63 shows the summary of the behavior codes for the producer characteristic question, 'livestock decisions.' In looking at the number of exchanges for this question, 66.7% were administered with one exchange, 16.7% were administered with two exchanges, and none were administered with three or more exchanges. For this question, 16.7% were administered with zero exchanges, indicating that the question was not asked or not responded to. If a respondent did not indicate earlier in the interview that they had any livestock, this question likely seemed unnecessary to ask. Although not reflected in the behavior coding results, at least one interviewer seemed to be somewhat confused by the term "livestock," not knowing whether horses should be included in that term. This could be problematic for

other types of animals that NASS considers livestock, but respondents may not, such as aquaculture, ostriches, rabbits, etc.

In looking at how the 'livestock decisions' question was administered, 37.5% of 24 administrations were done with *exact wording*, 12.5% of the question administrations had *minor changes*, 47.7% were administered with *major modifications*, and 8.3% were coded as *shortcutted*. No other codes were used for the primary interview code for reading the question. No cases were coded with secondary codes. This question has "e.g., grazing" as part of the question. It is unclear how an interviewer is supposed to read this part of the question.

The response options for this question were "yes" and "no." These response options were never read to respondents in these coded interviews. Reading response options for some questions is arguable more important than others. Not reading the response options in this question is likely not a problem.

During the first exchange, 54.2% provided a *codable response*. This increased to 70.8% for the final response. In the first exchange, 8.3% of records were coded as *shortcutting*, which increased to 12.5% by the final response (this increased because the answer given by at least one respondent was entered differently by the interviewer). Looking at the other respondent behavior codes, in the first exchange, 4.2% of the responses were *qualified answers*, 4.2% *did not response to the interviewer's verification*, and 12.5% of the responses were *interrupting the interviewer*. This is likely because the first part of the question is "are you involved in land use and/or crop decisions," which could stand on its own. In the final exchange, 8.3% were coded as *other*.

Similar to the 'land use decisions' questions, the behavior coding for this question shows that it was problematic for interviewers to ask.

3.5.5.6 Recommendations for the producer characteristic questions

1. Re-word (remove "majority" and "50% or more") and incorporate the response options into the 'occupation (farm or non-farm)' question to make this question easier to administer. For example, it could be re-worded to "In 2021, did you spend more of your work time farming or doing work other than farming?"

2. The 'days worked off farm' question may need to be re-worded for CATI implementation, depending on the needs of the survey sponsor. Suggested changes are:
   a. Ask a series of questions instead of one question.
      o "Did you work any days off the farm in 2021?"
      o If yes, "Did you work full time off the farm in 2021?"
      o If no, "How many days did you work off the farm in 2021? I have some categories to read to you."
   b. Make the include statements optional help text; in CATI, this is done by changing the color of the font to purple. Enumerators can utilize if necessary.
      o If the survey sponsor insists that the include statements should be read to respondents, move them up before any optional text in purple (e.g., Please select one) as a further indication that the include text should be read aloud. Alternately, interviewer instructions could be added, for example "[ENUM] Read include statements".

3. Based on the number of exchanges findings, revise the questions 'year the operator began operating any farm' and 'year the operator began operating this farm' for CATI administration (keep them the same on paper).
   a. Add an introductory statement such as "I will now ask you two separate questions about when you started operating a farm" before asking the questions.
   b. Change the order of the questions. Ask the 'year they started operating THIS operation' first and the 'year they begin operating ANY operation' second.

4. Include an introductory statement before the 'decision-making' questions. For example, "now I will ask you some questions about the types of decisions you make for this operation. Some of these may seem redundant with topics we've already covered, but I will read each one to allow you to answer or verify the information."

5. The 'number of people involved in decisions' and 'instructional statement' were often interpreted as the same concept. Either remove one of them or provide information in both interviewer training and the CATI script to give interviewers information about how the questions are different.

6. For an interview where the respondent is the only person involved in decisions for the operation (which is known from previous questions in this section), skip the 'day to day decisions,' 'land use decisions,' and 'livestock decisions' questions, or include them as "optional" questions for interviewers to read (this can be done in the script by making the text purple).

7. Review all questions for readability. The phrase "e.g. grazing" is part of the 'land use decisions' question, but it is unclear how an interviewer is supposed to read that to a respondent. Recommend removing "e.g. grazing" from the CATI script or re-wording it in a way that can be more easily read aloud.

8. If previous questions in a survey show no livestock on the operation, skip the 'livestock decisions' question, or show it as optional text.

9. Consider changing the wording of the 'livestock decisions' question to "are you involved in livestock or animal decisions, including purchases, sales, breeding, and pasturing." Although not reflected in the behavior coding results, at least one interviewer seemed to be somewhat confused by the term "livestock," not knowing whether horses should be included in that term. This could be problematic for other types of animals that NASS considers livestock, but respondents may not, such as aquaculture, ostriches, rabbits, etc.