

**Field Testing Evaluation of the  
Pregnancy Risk Assessment Monitoring System (PRAMS) –  
Phase 9 Survey**

**Prepared for**

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## **EXECUTIVE SUMMARY**

The purpose of this analytical report is to highlight respondents' experiences with the maternal and child health questionnaire (core) during field-testing. Analyzing the summary of interviewer's report of the ten respondents that participated in the field-testing was the focus of this study. The method was mixed and multi-phased, including the preliminary coding of qualitative data, measurement of variables, univariate and bivariate analyses of quantitative data, the processing of selected codes and the graphical representation of data.

The qualitative data yielded six convergent and four divergent codes. The analysis of the resultant numerical data from the measurement of the contents of some of these codes shows that most respondents (7, 70.0%) reported that instructions were clear. A large proportion of respondents (9, 90.0%) reported no difficulty in comprehending the questions while all respondents (10, 100.0%) stated that choosing answers was easy for them. Furthermore, bivariate analyses of the data indicates that there is no significant association between respondents' spoken language, education, race and perceived quality of instructions, comprehension of questions as well as making choices of answers ( $p > 0.05$ ).

Respondents' perceived quality of instructions, difficulty/ease in the comprehension of questions and difficulty/ease in making choices of answers are not significantly influenced by spoken language, education and race of respondents. Evidence supporting the appropriateness of the maternal and child health questionnaire (core) is robust but this is not to underrate the need for improvement in some aspects of the questionnaire.

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## **1.0 PREAMBLE**

Cognitive and field-testing is *sine qua non* in developing standard measurement tools. This report of the cognitive testing of the core version of the child and maternal health questionnaire highlights respondents' understanding and interpretations of, as well as reactions towards the questionnaire. The field-testing is more or less an actual study revealing real-life performance of the questionnaire. The field test was conducted among ten English or Spanish speaking mothers. On completing the questionnaire, respondents' opinions and experiences were explored, leading to production of textual data. This report is essentially the presentation of the analyses of the synopsis of this textual data.

## **2.0 OBJECTIVE OF REPORT**

The general objective of this report is to present respondents' experiences in answering the questionnaires during the field-testing.

The specific objectives are to:

1. Describe the distributions of the socio-demographic characteristics of respondents.
2. Highlight emergent codes from data.
3. Highlight the distribution of respondents in terms of their opinions regarding quality of instructions, difficulty/ease in the comprehension of questions and difficulty/ease in making choices of answers.
4. Examine the association and the significance of association between respondents' spoken language, education, and race on one hand, and perceived quality of instructions, difficulty/ease in the comprehension of questions and difficulty/ease in making choices of answers on the other hand.
5. Graphically represent the codes of ambiguity of instructions, difficulty in understanding questions and difficulty in choosing answers.
6. Highlight the distribution of actual data concerning respondents' activities/conditions before they got pregnant, healthcare visits in the 12 months before they got pregnant with their new baby, healthcare provider's management of respondents' high blood pressure during their most recent pregnancy and items that respondents' new baby have been placed to sleep with, in the 2 weeks before the survey.
7. Conclude and Highlight recommendations for improving the questionnaire.

### **3.0 METHODOLOGY**

The systematic process was mixed and multi-phased. This is described as follows:

#### **3.1 Preliminary Analysis of Qualitative Data**

The summary of respondents' expressed experiences during field-testing of the questionnaire was subjected to content analysis. A pseudo name was assigned to each of the ten respondents. The summary featured the responses to four questions: if the questionnaire items were hard or easy to understand, if respondents had any trouble choosing between the answer choices, if the instructions were clear and if respondents had any other comments or suggestions for improving the survey. Interviewers recorded responses and also asked for recommendations regarding the first three questions, if any. In other words, quality of instructions, comprehension of questions, making choices of answers (three variables) were among the variables of the post-field testing. Recommendations to improve these three issues (additional three variables) were variables of this study while general comments or suggestions for improving the survey was also another variable. The summary of textual data were prepared for analysis by gathering each respondent's contributions in separate word documents. Each document was named and saved using each respondent's socio-demographic and other characteristics, including the pseudo name that was assigned to each respondent. Nvivo 10 for windows was used for the content analysis.

#### **3.2 Measurement of variables**

Measurement of variables were attempted, using some of the codes that emerged from data. Ten codes (six convergent and four divergent) emerged from the data at the end of the preliminary analysis. Measurement included assigning numbers to data in a meaningful way. The nominal level of measurement was adopted by identifying respondents who populated each of the 3 pairs of the convergent codes and assigning numbers 1 and 3 to them. Any respondent who happens to feature in a relevant pair of the codes was thereafter stripped of assigned number 1 and 3, and then assigned number 2. For example, Erica was reported to have stated that "instructions were generally understandable with some mild confusion experienced with instructions that offered arrows next to Yes/No answer choices". As a result, Erica was featured in the codes 'clarity of instructions' and 'ambiguity of instructions'. During measurement, Erica was assigned 1 and 3. Because she populated the two codes/belonged to the two groupings, she automatically ceased to belong to the two groups but a middle level, ambivalent group. So, while some respondents like Esmeralda was assigned 1 because she only belonged to



the 'clarity of instructions' group/code, and while Bree was assigned 3 because she only belonged to the 'ambiguity of instructions' group/code, Erica was assigned 2 because she neither belonged to the former nor the latter group/code. The process that was applied in the measurement of quality of instruction was repeated in the measurements of comprehension of questions and making choices of answers.

### **3.3 Analysis of Quantitative Data**

Simple percentile analysis was used to assess the univariate distributions of data, which were visualized using Venn diagrams. Bivariate analysis, i.e. cross-distributions of data were examined using stacked bar charts. Chi-square was used to test the significance of associations between the levels of two pairs of variables. Quantitative data analyses were done using Statistical Package for Social Sciences (version 24). Data visualization were accomplished with Microsoft excel, Microsoft Word SmartArt, Photopea and Venn Diagram Maker.

### **3.4 Processing of Selected Codes**

The summary of three codes including the codes of ambiguity of instructions, difficulty in understanding questions and difficulty in choosing answers were processed. Participants' submissions in these codes were edited minimally without changing the message of the respondent, to bring out the issues of concern in the codes. The codes were later represented graphically.

## **4.0 RESULTS**

### **4.1 Profile of Respondents**

The mean $\pm$ SD of age was 30.67 $\pm$ 5.94 (range = 22-38 years). The age of seven of the ten respondents was between 26 to 45 while two of the ten respondents aged between 18 to 25 years. These indicates that the respondents were generally not young mothers. One respondent did not state her age. One in two respondents (50%) completed high school, while four of ten respondents achieved greater than high school education. This reflects that basic education is optimal among the respondents. Hispanics made up half of the respondents, Black Non-Hispanics were three of ten whereas just one respondent was White Non-Hispanic. One respondent did not indicate her race. Respondents were evenly distributed in terms of the two spoken languages— English and Spanish. Majority of the respondents earned from \$25,001 to \$50,000 while one respondent did not indicate her income. The summary of the socio-demographic characteristics of respondents is

presented in Table 1 while the case by case details of the same is presented in appendix 1.

**Table 1: Socio-demographic characteristics of respondents (N = 10)**

Socio-demographic characteristic	Sub-groups	Frequency	Percentage (%)
Age*	18-25	2	20.0
	26-35	4	40.0
	36-45	3	30.0
	Missing	1	10.0
Education	Less than High School	1	10.0
	High School	5	50.0
	Greater than High School	4	40.0
Race	Black Non-Hispanic	3	30.0
	White Non-Hispanic	1	10.0
	Hispanic	5	50.0
	Missing	1	10.0
Spoken Language	English Speakers	5	50.0
	Spanish Speakers	5	50.0
Household Income	Less than \$25,000	2	20.0
	\$25,001 to \$50,000	4	40.0
	\$50,001 to \$85,000	1	10.0
	\$85,001 and above	2	20.0
	Missing	1	10.0

\*The mean  $\pm$ SD of age was  $30.67 \pm 5.94$ , minimum= 22, maximum= 38.

## 4.2 Primary Findings from the Qualitative Analysis

The content analysis of qualitative data yielded ten codes, six convergent codes and four divergent. The six convergent codes were populated by respondents' answers that align with the code titles. For instance, the code of "difficulty in understanding questions" is like a unit containing responses of respondents who opined that questions were difficult to understand. Contrarily, the four divergent codes contains responses that reflect the title of the codes and are multifarious at the same time. For example, the code 'comments or suggestions for improving the survey' contains all responses about comments or

suggestions. The characteristics of these codes are summarized in Table 2 while all codes and their contents are presented in appendixes 2 to 11.

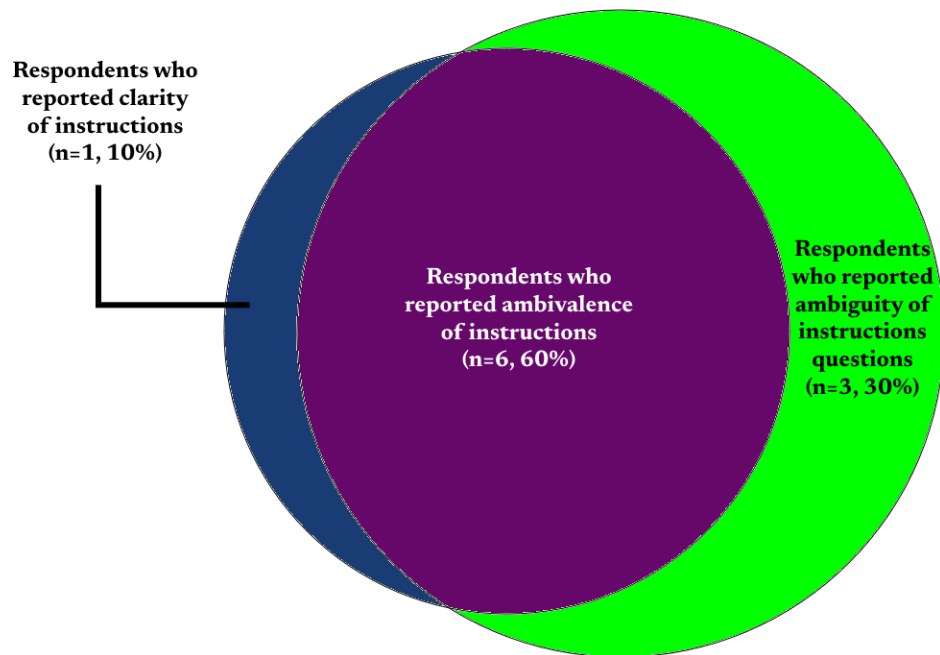
**Table 2: Codes that Emergent from Data**

s/no	Code title	Type of code	Number of respondents that populated the code
1	Difficulty in understanding questions	Convergent	7
2	Ease in understanding questions	Convergent	9
3	Difficulty in choosing answers	Convergent	4
4	Ease in choosing answers	Convergent	10
5	Clarity of instructions	Convergent	7
6	Ambiguity of instructions	Convergent	9
7	Recommendation regarding ambiguous instructions	Divergent	8
8	Recommendation regarding difficulty in choosing answers	Divergent	3
9	Recommendation regarding difficulty in understanding questions	Divergent	5
10	Comments or suggestions for improving the survey	Divergent	10

**4.3 Univariate Analysis of Perceived Quality of Instructions, Comprehension of Questions and Making Choices of Answers among Respondents**

**4.3.1 Perceived Quality of Instructions**

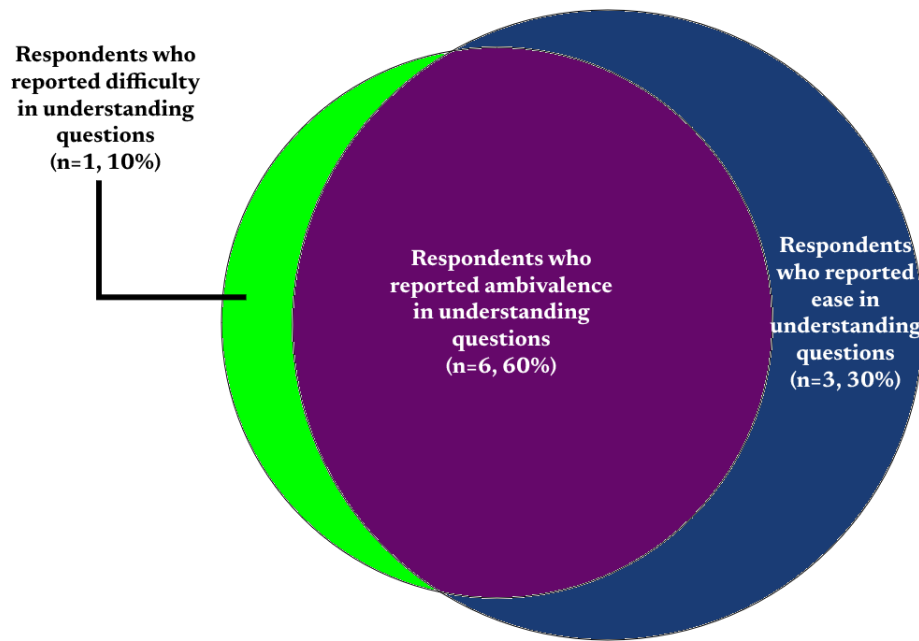
Only one of the ten respondents was exclusive in reporting clarity of questionnaire instructions. Three of ten respondents were also exclusive in reporting that instructions were ambiguous. Nevertheless, the preponderance of respondents (6, 60.0%) were ambivalent. Majority of respondents (70.0%) expressed clarity of instructions but also pointed out limitations of this clarity. Hence, 70.0% of respondents, as visualized in Figure 1, acknowledged the clarity of questionnaire instructions.



**Figure 1: A Venn diagram showing the univariate distribution of respondents' perceived quality of instructions**

#### **4.3.2. Comprehension of questions**

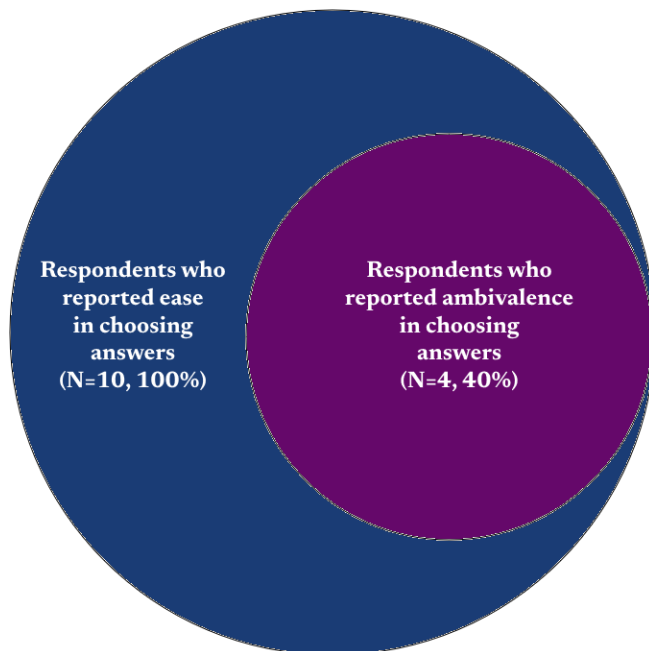
An overwhelming majority of respondents (9, 90.0%) reported that they had no difficulty in comprehending the questions. A sizeable chunk of this majority (6, 60.0%) were ambivalent, by noting that their comprehension was limited. Notwithstanding, three (30.0%) respondents were exclusive in expressing the comprehensibility of the questionnaire. The comprehensibility of the questionnaire is evident but also limited, as highlighted in Figure 2.



**Figure 2: A Venn diagram showing the univariate distribution of respondents' difficulty/ease in comprehending questions**

#### **4.3.3. Making choices of answers**

Respondents were unanimous in proclaiming their ease in choosing answers. However, four (40.0%) further reported limitations to the ease of choosing answers. This distribution, represented in Figure 3, shows that making choices of answers was the least challenging of the three dependent variables whose univariate distributions have been examined so far.



**Figure 3: A Venn diagram showing the univariate distribution of respondents' ease/difficulty in making choices of answers**

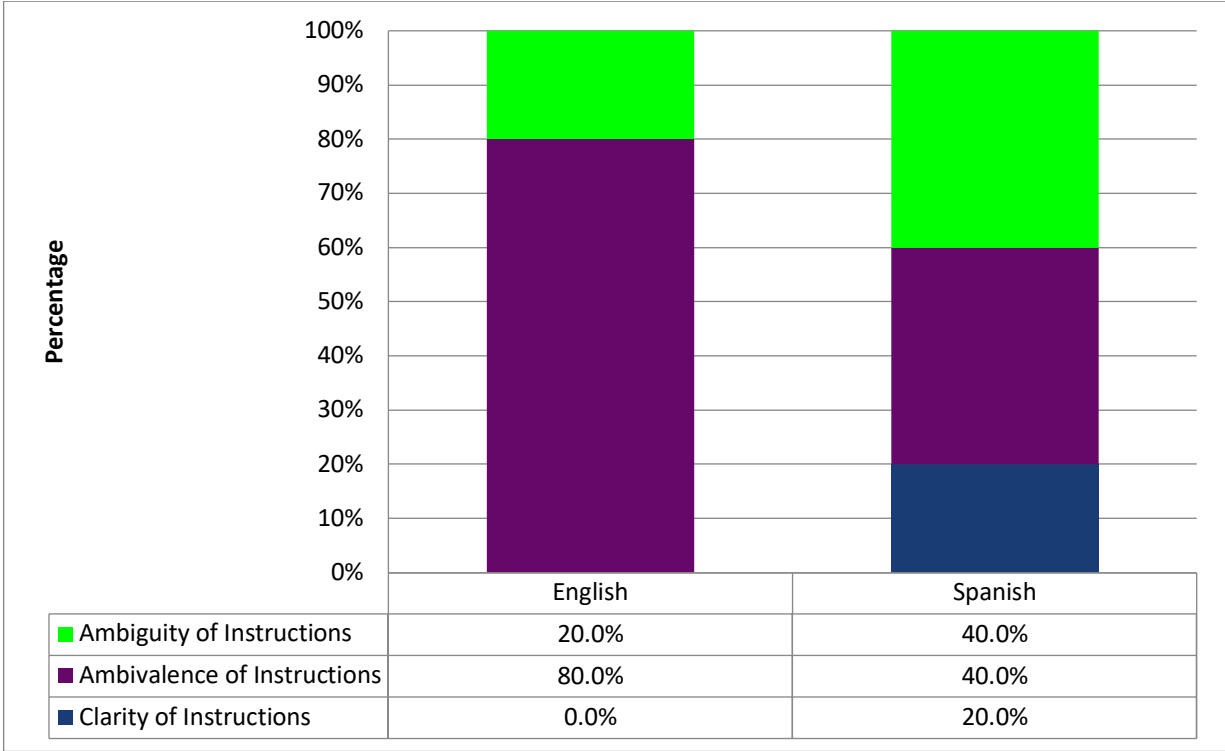
#### **4.4 Bivariate Analysis of Data**

In bivariate analysis of data, descriptive cross-distribution, association and significance of association between independent and dependent variables were attempted. The independent variables were respondents' spoken language, education and race while the dependent variables were perceived quality of instructions, comprehension of questions and making choices of answers. Therefore, the general **null hypotheses** reads as follows: there is no significant association between respondents' spoken language, education, race and perceived quality of instructions, comprehension of questions and making choices of answers. The report of bivariate analyses are presented in the sub-sections below:

##### **4.4.1 Spoken language and quality of instructions**

The only respondent that was exclusive in describing clarity of instructions was a Spanish speaker. Still, two Spanish speaking respondents exclusively reported ambiguity of instructions, only one English speaking respondent reported this ambiguity. Meanwhile, four of the five English-speaking respondents were ambivalent. This faintly demonstrates that being English speaking ordinarily predisposes towards the reportage of ambiguity of instructions but this is not statistically significant (chi-square = 2.000,  $p > 0.05$ ). Therefore, the null hypothesis is accepted, spoken language is not significantly associated with perceived quality of instructions. This means that perceived quality cannot be explained

in terms of respondents' spoken language. The cross distribution of spoken language and perceived quality of instructions is represented in Figure 4.

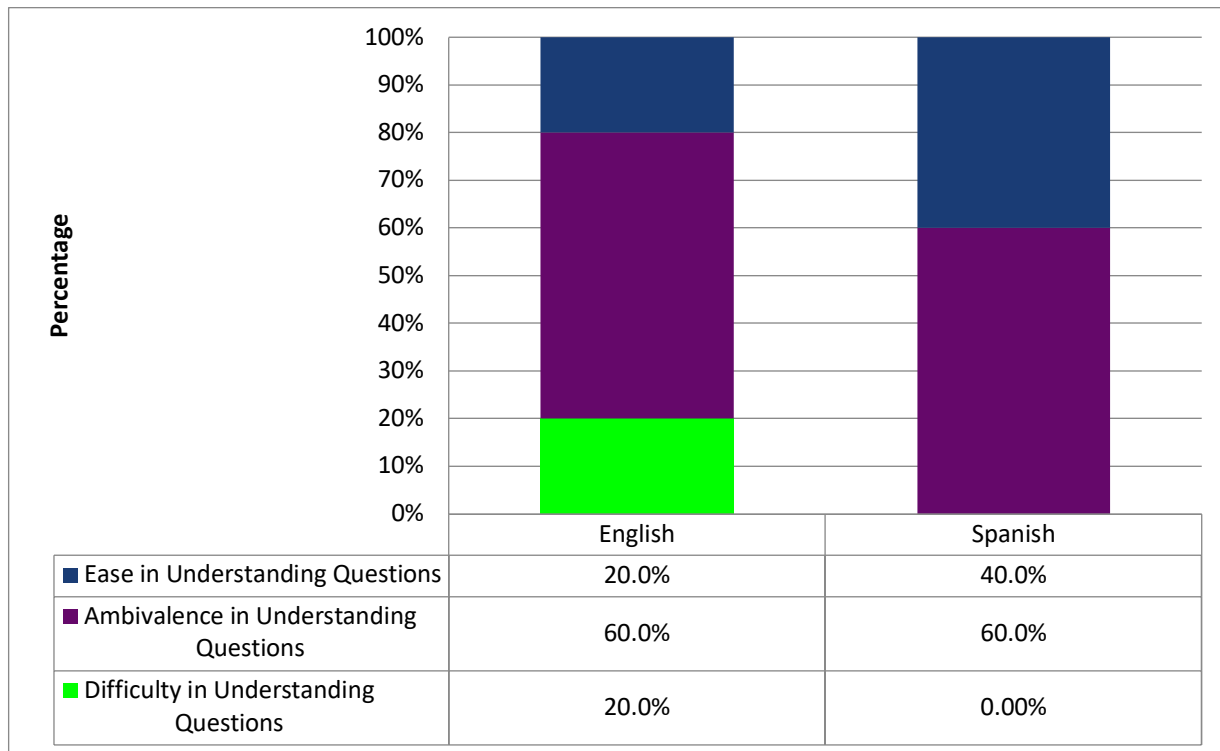


Chi-square = 2.000 ( $p = 0.368$ ),  $N = 10$ .

**Figure 4: A stacked bar chart showing the cross distribution of spoken language and respondents' perceived quality of instructions**

**4.4.2 Spoken language and comprehension of questions**

Ambivalence in the comprehension of questions was equally common to English and Spanish speakers because 60.0% of each group's members were ambivalent. While one English speaker was exclusive in expressing her ease in comprehending questionnaire questions, two Spanish speakers reported this ease. The only respondent who reported exclusive difficulty in comprehending questions was English speaking. This descriptive data represented in Figure 5 suggests that Spanish speakers are a bit more favourably placed in terms of comprehension of questions but this is not significantly so (chi-square = 1.333,  $p > 0.05$ ). Therefore, the null hypothesis is accepted, spoken language is not significantly associated with comprehension of questions. Comprehension of questions is independent of spoken language.



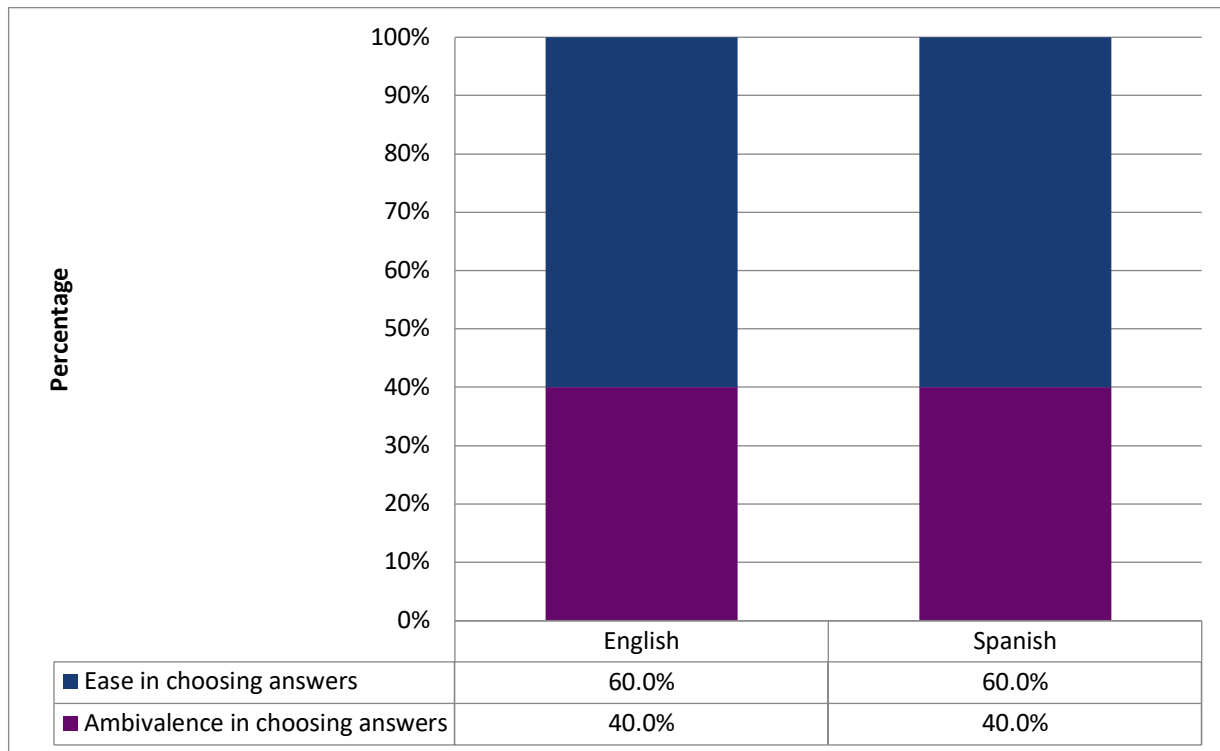
Chi-square = 1.333 ( $p = 0.513$ ),  $N = 10$ .

**Figure 5: A stacked bar chart showing the cross distribution of spoken language and the respondents' difficulty/ease in comprehending questions**

#### 4.4.3 Spoken language and making choices of answers

English and Spanish speaking respondents were equally distributed in terms of ease and ambivalence in making choices of answers. Incidentally, more respondents (60.0%) exclusively reported ease rather than ambivalence in choosing answers which was reported by 40.0% of respondents in the two spoken language categories. These are represented in Figure 6. The chi-square of this analysis is 0.000 ( $p > 0.05$ ). Therefore, the null hypothesis is accepted, spoken language is not significantly associated with difficulty/ease in making choices of answers. Making choices of answers is independent of spoken language.



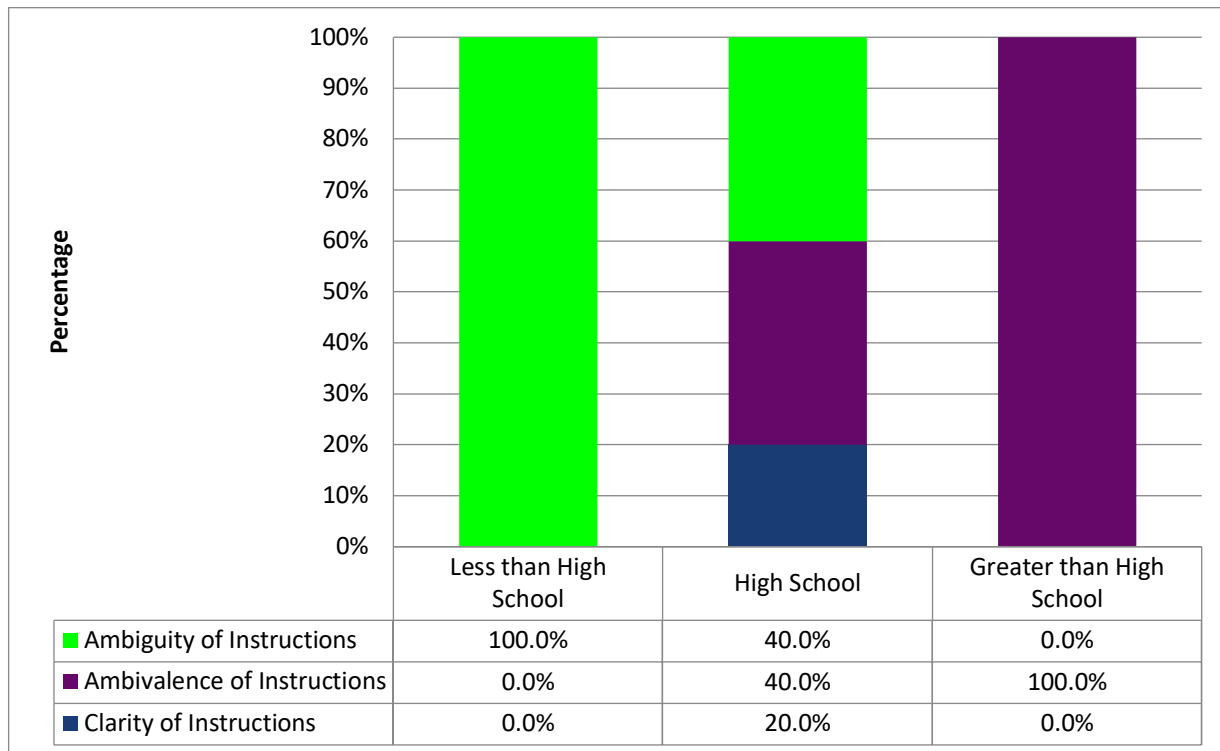


Chi-square = 0.000 ( $p = 1.000$ ),  $N = 10$ .

**Figure 6: A stacked bar chart showing the cross distribution of spoken language and respondents' difficulty/ease in making choices of answers**

#### 4.4.4 Education and perceived quality of instructions

The only respondent who completed less than high school education was exclusive in reporting ambiguity of questionnaire instructions. All the four respondents who had greater than high school education maintained ambivalent attitude in their perceived quality of instructions. Among the five respondents who completed high school, one respondent was exclusive in reporting clarity of instructions. The chi-square of this analysis was = 6.000 ( $p > 0.05$ ). Therefore, the null hypothesis is accepted, education is independent of perceived quality of instructions.

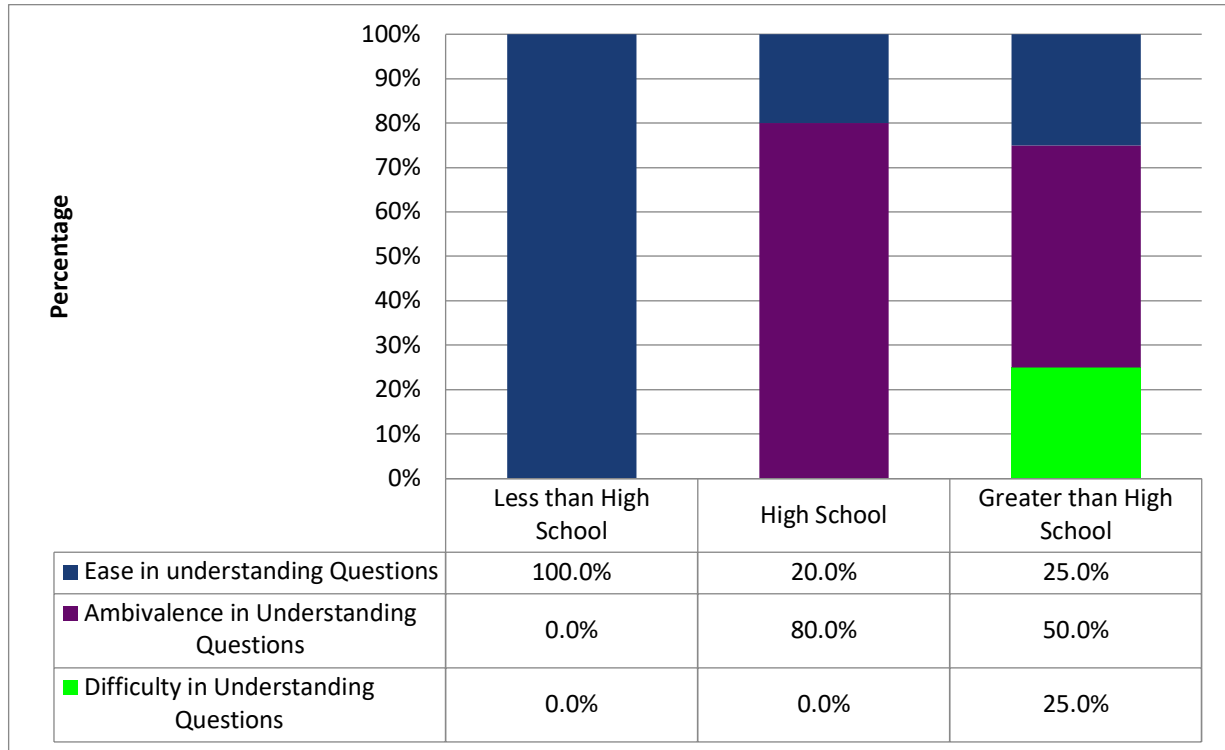


Chi-square = 6.000 ( $p = 0.199$ ),  $N = 10$ .

**Figure 7: A stacked bar chart showing the cross distribution of highest educational qualification and respondents' perceived quality of instructions**

#### 4.4.5 Education and comprehension of questions

The only 'less than high school' respondent was exclusive in reporting ease in understanding questions. Only 1 of 5 (20.0%) of 'high school' and 'greater than high school' (25.0%) respondents were exclusive in reporting ease in understanding questions. The only respondent that was exclusive in reporting difficulty in understanding questions had 'greater than high school' education. These descriptive findings, represented in Figure 8, shows no clear-cut influence of education on comprehension and was not statistically significant (chi-square = 4.333,  $p > 0.05$ ). Therefore, the null hypothesis is accepted, education is not associated with comprehension of questions.

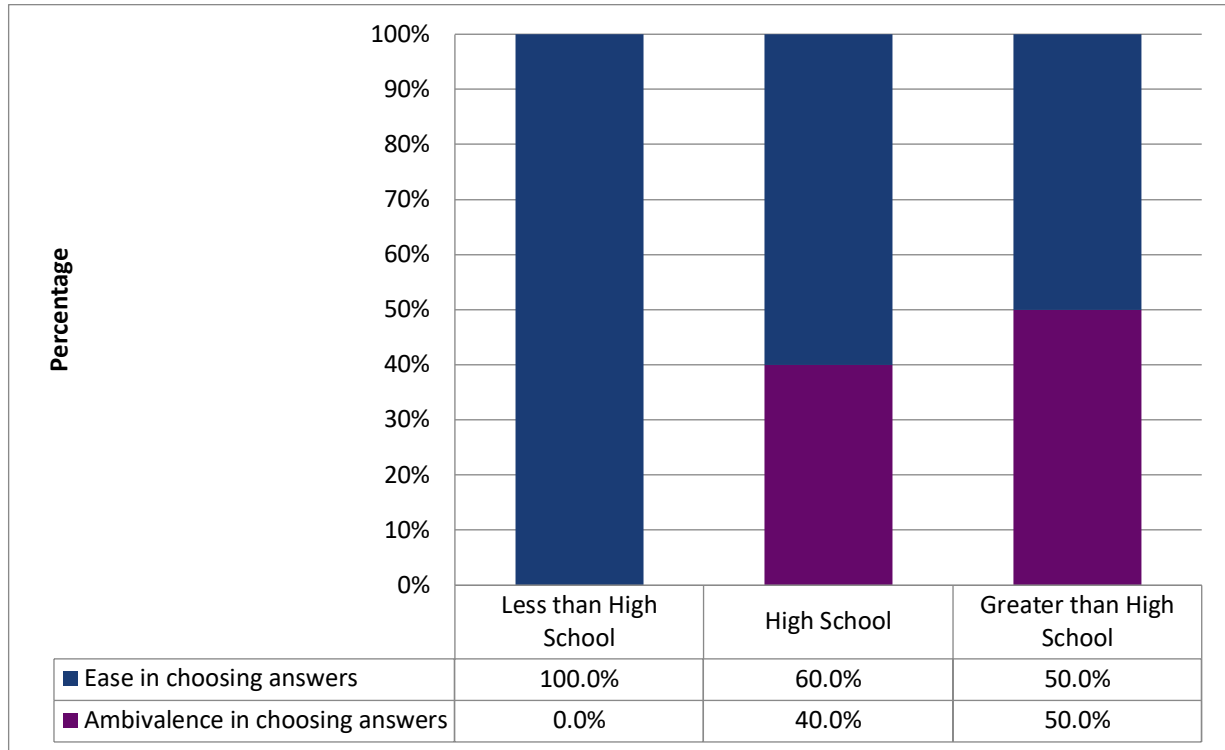


Chi-square = 4.333 ( $p = 0.362$ ),  $N = 10$ .

**Figure 8: A stacked bar chart showing the cross distribution of highest educational qualification and respondents' difficulty/ease in comprehending questions**

#### 4.4.6 Education and making choices of answers

The only 'less than high school' respondent was exclusive in reporting ease in choosing answers. Exclusive ease in choosing answers was also reported by 3 of the 5 (60.0%) and 2 of the 4 (50.0%) of 'high school' and 'greater than high school' respondents respectively. No respondent was exclusive in reporting difficulty in choosing answers. The descriptive findings depicted in Figure 9 are insignificantly associated with each other (chi-square = 0.833,  $p > 0.05$ ). Therefore, the null hypothesis is accepted, education is not significantly associated with making choices of answers.

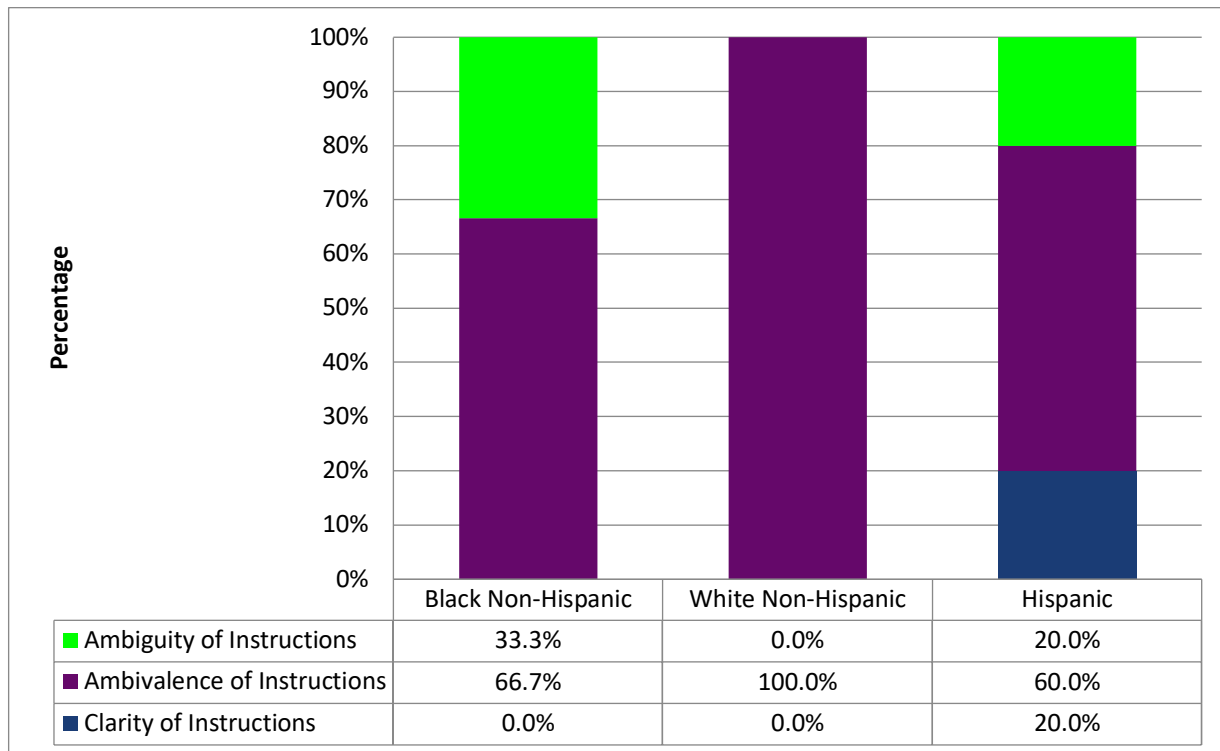


Chi-square = 0.833 ( $p = 0.659$ ),  $N = 10$ .

**Figure 9: A stacked bar chart showing the cross distribution of highest educational qualification and respondents' difficulty/ease in making choices of answers**

#### 4.4.7 Race and perceived quality of instructions

Two Black respondents (66.7%), the only White respondent (100.0%) and 3 (60.0%) Hispanic respondents reported ambivalence of instructions. The only respondent who was exclusive in reporting clarity of instructions was Hispanic. The chi-square of this analysis is 1.400 ( $p > 0.05$ ). Therefore, the null hypothesis is accepted, race is not significantly associated with perceived quality of instructions. The cross distribution of race and the respondents' perceived quality of instructions is represented in Figure 10.

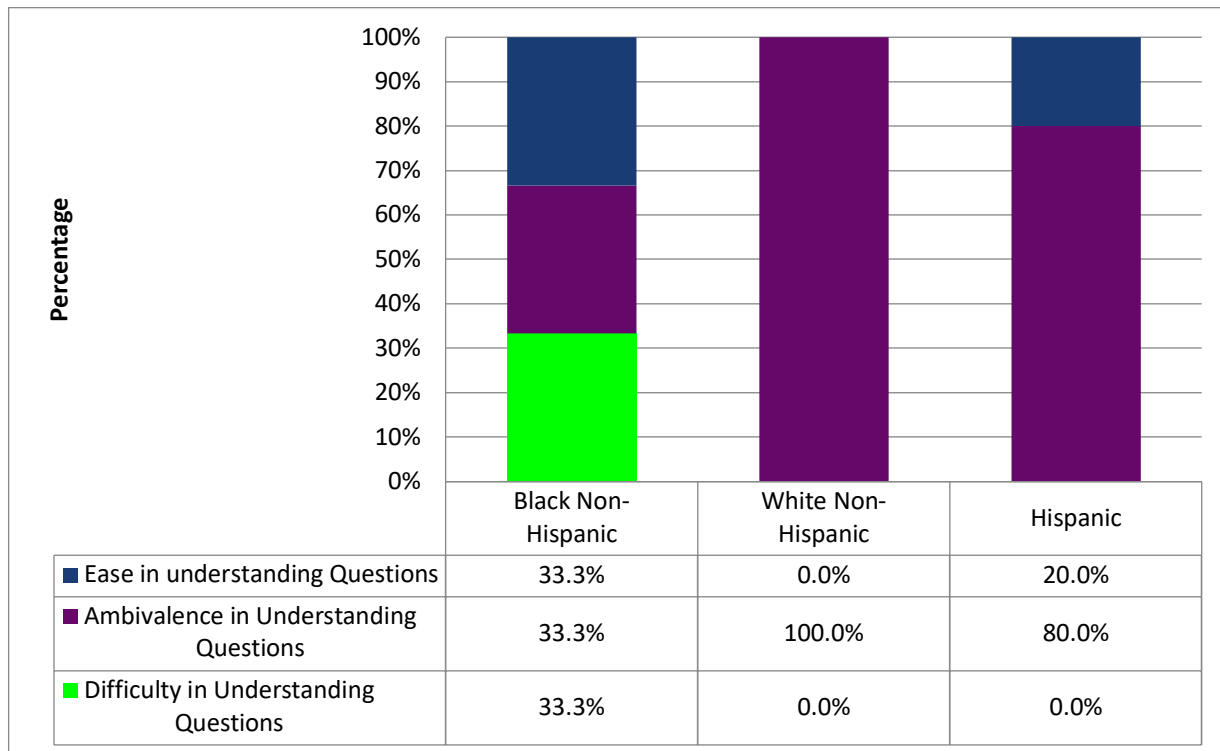


Chi-square = 1.400 ( $p = 0.844$ ),  $N = 10$ .

**Figure 10: A stacked bar chart showing the cross distribution of race and respondents' perceived quality of instructions**

#### 4.4.8 Race and comprehension of questions

The only White respondent (100.0%) reported ambivalence in understanding questions whereas 4 of the 5 Hispanics (80.0%) reported this ambivalence 1 of the 3 Blacks (33.3%) did. Of the two respondents who were exclusive in reporting ease in understanding questions, 1 (33.3%) was Black while the other was (20.0%) was Hispanic. Chi-square analysis (3.200,  $p > 0.05$ ) shows that comprehension of questions is not significantly associated with race. Therefore, the null hypothesis is accepted. Comprehension is independent of race. The cross distribution of race and the respondents' comprehension of questions is represented in Figure 11.

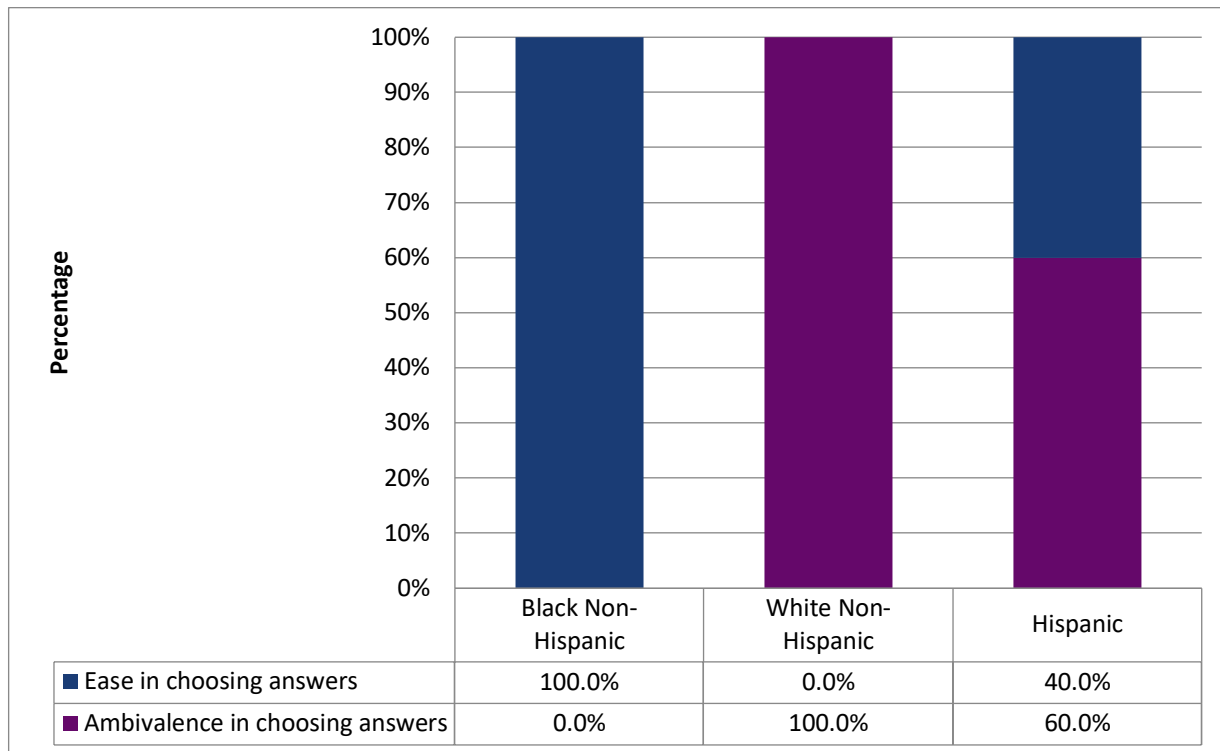


Chi-square = 3.200 ( $p = 4.000$ ),  $N = 10$ .

**Figure 11: A stacked bar chart showing the cross distribution of race and respondents' difficulty/ease in comprehending questions**

#### 4.4.9 Race and making choices of answers

All the three Black (100.0%) and two (40.0%) Hispanic respondents reported exclusive ease in making choices of answers. The only White (100.0%) and 3 (60.0%) of Hispanic respondents reported ambivalence in choosing answers. Chi-square analysis (4.140,  $p > 0.05$ ) shows that race is not significantly associated with the making of choices of answers. Therefore, the null hypothesis is accepted. Race is independent of difficulty/ease in making choice of answers. The cross distribution of race and difficulty/ease in making choices of answers is represented in Figure 12.



Chi-square = 4.140 ( $p = 0.126$ ),  $N = 10$ .

**Figure 12: A stacked bar chart showing the cross distribution of race and respondents' difficulty/ease in making choices of answers**

## 5.0 Graphical representation of the Contents of Three Emergent Codes: Ambiguity of instructions, Difficulty in Understanding Questions and Difficulty in Choosing Answers

### 5.1 Graphical representation of the code of ambiguity of instructions

The details of some respondent's experiences regarding ambiguity of instructions are represented in Figure 13. Respondents' demographic and other characteristics are presented like signboard to their expressions.

*Andrea, 29, Hispanic, Spanish speaking, completed high school, BFA-MA-005*

- Andrea missed the instruction box between Q27 and Q28. She noted that she did not notice or read it. For Q36, Q39, Q40, Q53, and Q55, Andrea noted she understood the questions to mean she was only to respond the one way in which the question applied to her. She wanted to just answer Yes for the one way, she puts her baby to sleep while answering Q36, Q39 and Q40 and Q53. She was overwhelmed by the amount of questions and options.
- Interviewer's observation: Survey fatigue was also noted as a factor with Q36, Q39, Q40, Q53, and Q55, she was becoming tired of the questions and of having to mark each individual boxes.

*Bailey, 31 years old, Black non-hispanic, English speaking, completed greater than high school, BFA-MI-005*

- Bailey also missed the instruction box between Q27 and Q28, causing her to answer Q28 which did not apply to her.

*Bella, 40 years old, Black Non-hispanic, English speaking, completed greater than high school, BFA-MI-002*

- Bella also missed seeing the instruction boxes between Q27 and Q28. Rather than skipping Q28 to proceed to Q29, since she had not consumed any alcohol during her pregnancy, she answered Q28. Similar experience occurred between Q42 and Q43.

*Bree, 22 years old, Black non-hispanic, English speaking, completed high school, BFA-MI-003*

- Bree experienced difficulty repeatedly with instruction boxes throughout survey. She missed seeing instruction boxes between Q4 and Q5, as well as Q27 and Q28. Bree also experienced difficulty with Q44, noting she has not yet had her postpartum checkup due to giving birth only recently, however an appointment is scheduled for this checkup in the coming weeks. In reading this question she wondered whether she should include this information and then missed the instruction box with an arrow directing her to go to Q46 if she answered No. She noted it would have been helpful to have this instruction box closer to the No, or worded differently. She also experienced this difficulty with instruction box in Q17.

*Catalina, 22, Hispanic, Spanish speaking, completed less than high school, BFA-MA-001*

- Catalina experienced some difficulty with instruction boxes placed between Q4 and Q5. She noted that she noticed and read the instruction box but she did not fully comprehend instruction and therefore proceeded to the next question even though due to her answers to Q4, she should have proceeded to Q6. She reported the instructions that included an arrow with instruction to go to a specific question were more helpful and easier to understand than the instruction boxes.
- Catalina also experienced difficulty with Q27 as she did not proceed to answer No for each sub-question, but rather circled No at the top of the column. She noted she simply answered No to the main question because she did not drink alcohol at all throughout her pregnancy and skipped reading the rest of the options in order to proceed to next question.



*Erica, 34 years old, Hispanic, English speaking, completed greater than high school, BFA-MI-001*

- Erica experienced some mild confusion with instructions that offered arrows next to Yes/No answer choices. Erica expressed that arrows pointing away from the No provide clear direction on where to go next, because it points to an instruction box that states - *Go to Question X*. However, the arrow pointing away from the Yes answer choice box does not have a similar instruction box, therefore she was left to wonder whether she was to keep going and whether she was to keep answering all questions that followed or only some questions. She assumed she was being directed to the very next question but with a sense of doubt about her decision to keep moving forward in this manner.
- Erica also noted difficulty with instruction box on page 4, before, Q16 -*If you had high blood pressure before or during your pregnancy, go to Question Core 16, if not, go to Question Core 17*. Respondent stated she had to re-read instruction several times to determine whether it was asking her to proceed to Question 16 only if she had high blood pressure during one of the two time periods (before or during pregnancy) or if she had high blood pressure during one of the two as well as both time periods.

*Juanita, 28 years old, Hispanic, Spanish speaking, completed high school, BFA-MA-004*

- Juanita missed the instruction box between Q15 and Q16, noting that she did not visually notice them and therefore did not read instructions. This occurred again with the instruction box between Q27 and Q28. Juanita She also experienced difficulty with instructions on Q33, proceeding to Page 8 and not answering the next set of questions on that page. She noted that at this point, survey fatigue was becoming significant and she read the instruction box rather quickly, only noticing the beginning of the instruction. For Q39 and Q40, the wording of the questions and lack of instruction caused respondent to interpret that she was only to answer Yes to the option that applied to her, and therefore she left all No check boxes blank. For Q41 her answer was No to this question, however she failed to mark it. Juanita followed instructions but incorrectly. She thought the arrow pointing toward the instruction box instructing her to go to Q43 was meant for her answer of No. Therefore, she skipped Q42 and went to Q43, but left it blank because the question did not apply to her. She also noted survey fatigue was a factor here.

*Luca, 36 years old, Spanish speaking, completed high school, BFA-MA-002*

- Luca experienced difficulty throughout the survey with instruction boxes between questions, as well as Yes/No instructions with arrows pointing out to instruction boxes. Luca exhibited mixed experience, fully understanding instructions for some questions and other times experiencing confusion. Difficulty occurred with instruction boxes between Q4 and Q5, Q15 and Q16, Q19 Y/N instruction box with arrow, Q23 Y/N instruction box with arrow.

*Meredith, 38 years old, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004*

- Meredith noted that she did not notice the section headings *Before / During / After Pregnancy*. She suggested making the whole heading of the page a defined section rather than the column alone as a way to make this more visually clear for respondents.

**Figure 13: Graphic Representation of Code on Ambiguity of instructions**

## 5.2 Difficulty in understanding questions

Experiences of difficulties in understanding questions are represented in Figure 14. Details of respondents are presented along the same.

*Andrea, 29 years old, Hispanic, Spanish speaking, completed high school, BFA-MA-005*

- She did experience some confusion with a couple questions.
- Andrea noted that for Q18, she was not sure what was meant by “*las señales de advertencia*” expressing that she did not connect Q18 to Q17 and therefore did not understand that the warning signs being asked about in Q18 were the same one which were defined in Q17. For Q32, she stated that she was unsure if the question was asking whether her baby stayed in the hospital extra days without her (she thought about babies that go to NICU) or if the question referred to the time period they were both in the hospital together.

*Bella, 40 years old, Black Non-hispanic, English speaking, completed greater than high school, BFA-MI-002*

- Bella reported experiencing some confusion with Questions 36-40 which asked about baby’s sleeping in the past 2 weeks. She noted due to Q32 and instruction box - *If your baby is still in the hospital, go to Question Core 41*, she wondered whether she was supposed to think about the first 2 weeks after bringing baby home from hospital or if she was supposed to think about the most recent 2 weeks. Note that respondent’s baby is now 10 months old. Respondent noted she decided to answer the question thinking about the 2 weeks prior to the current date.

*Bree, 22 years old, Black non-hispanic, English speaking, completed high school, BFA-MI-003*

- Bree reported having difficulty with Q11, noting that the *Ask me...* section of the question caused confusion about how to answer the question. The framing of the question in the first person *Ask me... if I was drinking alcohol* caused respondent to question whether she was supposed to answer No because she did not consume alcohol during her pregnancy, or Yes because her doctor had spoken with her about this topic. She experienced similar confusion for sub-questions g, h, i, k, and l.

*Erica, 34 years old, Hispanic, English speaking, completed greater than high school, BFA-MI-001*

- Erica stated that she had to re-read some questions a few times to ensure that she was thinking of the correct time frame i.e., *12 months before you got pregnant, before or during your pregnancy, last 3 months of your pregnancy*. Respondent also noted experiencing some confusion and difficulty with fully understanding what was meant by *postpartum care* in Q53.

*Esmeralda, 36 years old, Hispanic, Spanish speaking, completed high school, BFA-MA-003*

- Esmeralda reported being confused with Q3-a and stated that she had to re-read several times to ensure she was interpreting correctly— whether the question was asking about type 1 or type 2 diabetes, or gestational diabetes.

*Juanita, 28 years old, Hispanic, Spanish speaking, completed high school, BFA-MA-004*

- For Q56, Juanita did not understand the meaning of “*ingreso total*”. For Q57, while she understood the question fully, she did not understand what was being referred to when it stated “*dependian de este dinero*” because Q56 and Q57 were not connected in her mind. Q6, Q7, and Q8 were identified as repetitive. Juanita also expressed that the survey had too many questions, and she began to experience a desire to finish as quickly as possible midway through the survey.

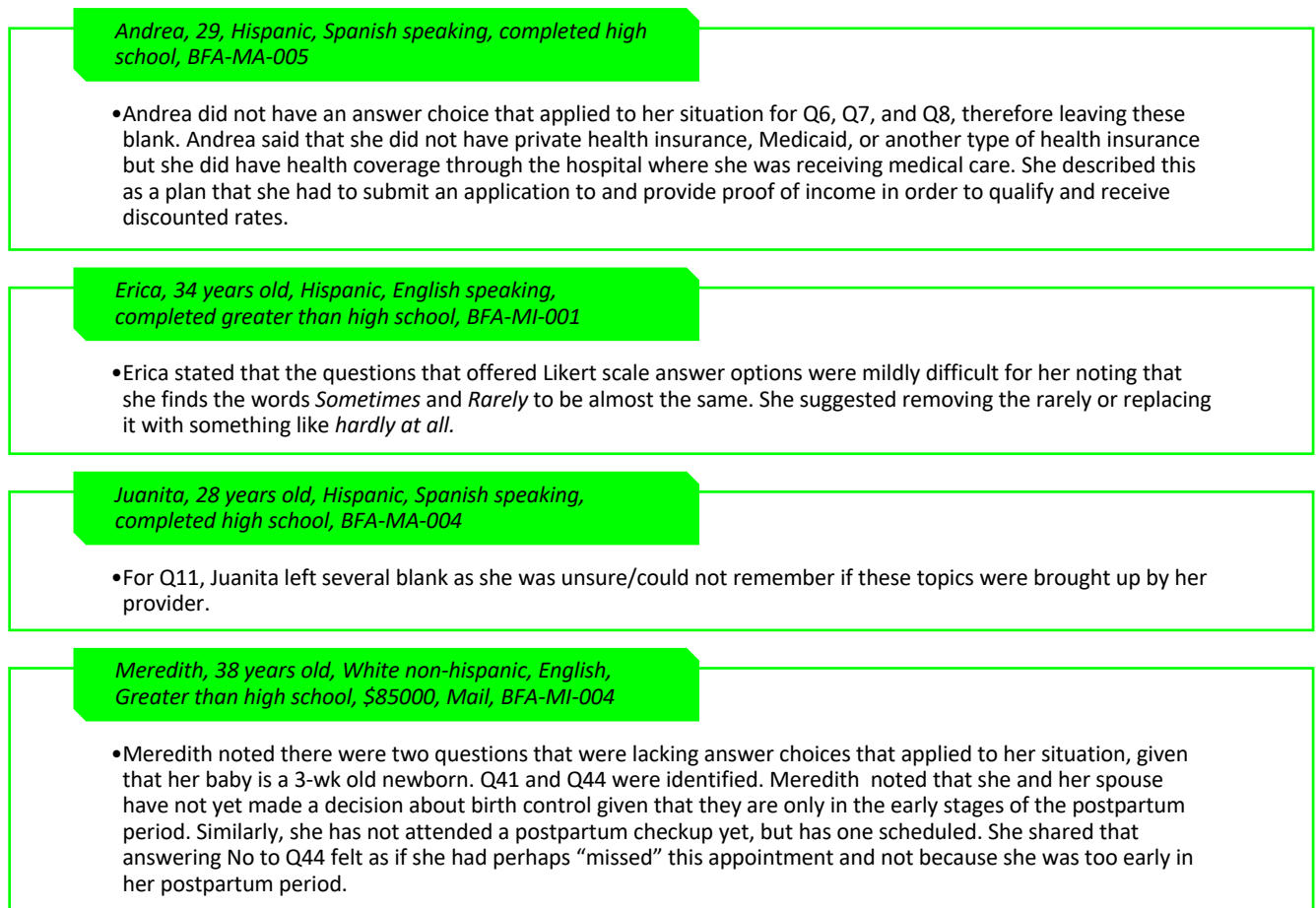
*Meredith, 38 years old, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004*

- Meredith noted that Q13 caused some minor confusion related to the Covid19 vaccination. She received two doses prior to pregnancy and a booster shot during pregnancy so she was unsure how to answer this question.

**Figure 14: Graphical representation of the code of difficulty in understanding questions**

### **5.3 Difficulty in choosing answers**

Details of the emergent code of difficulty in choosing answers is represented in Figure 15. Demographic and other characteristics of respondents are positioned on top of their contributions.



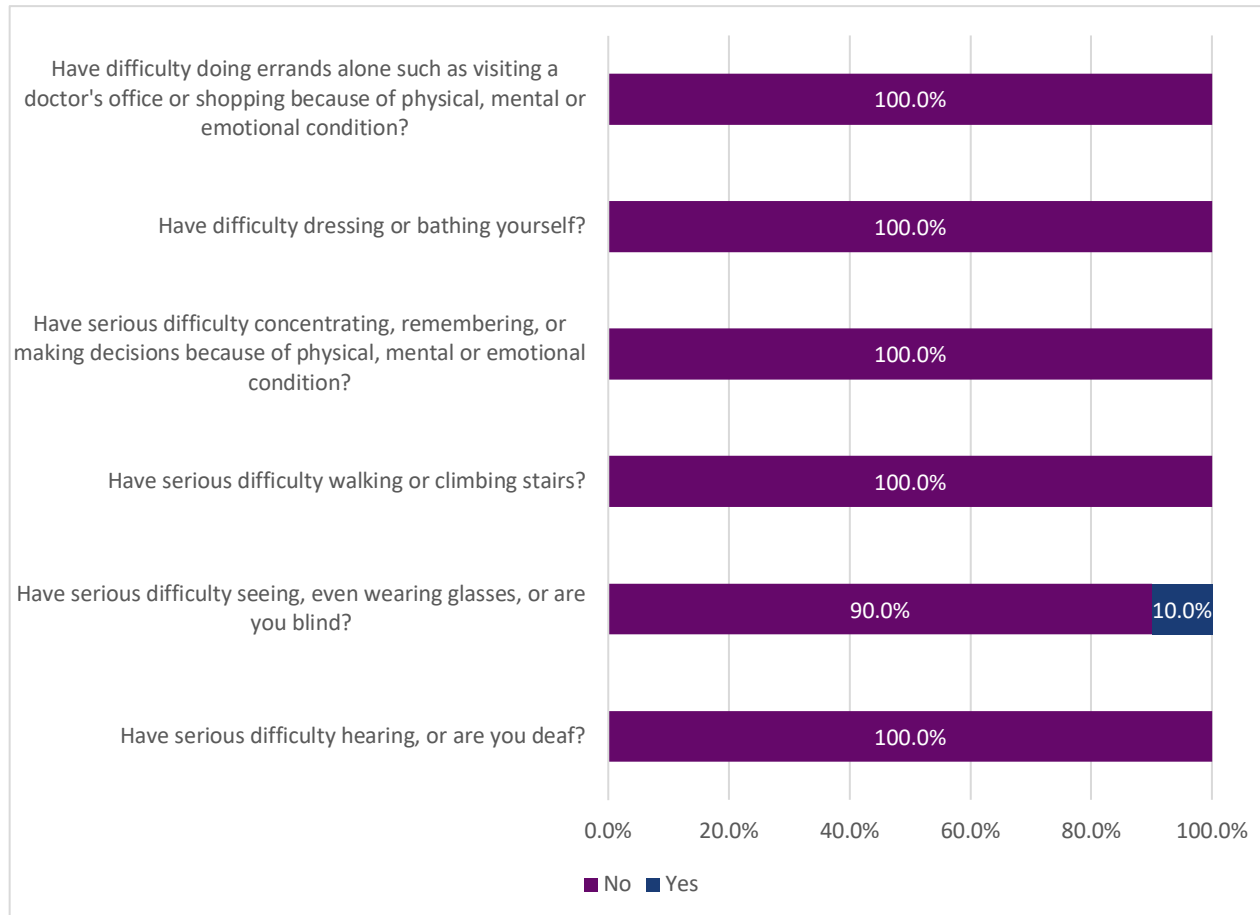
**Figure 15: Graphical representation of the code of difficulty in choosing answers**

**6.0 Distribution of respondents’ activities/conditions before they got pregnant, healthcare visits in the 12 months before they got pregnant with their new baby, healthcare provider’s management of respondents’ high blood pressure during their most recent pregnancy and items that respondents’ new baby have been placed to sleep with, in the 2 weeks before the survey.**

This section is a presentation of respondents’ actual experiences. The field-testing was positioned as a window of opportunity to examine data, as follows:

## 6.1 Respondents' activities/conditions before they got pregnant

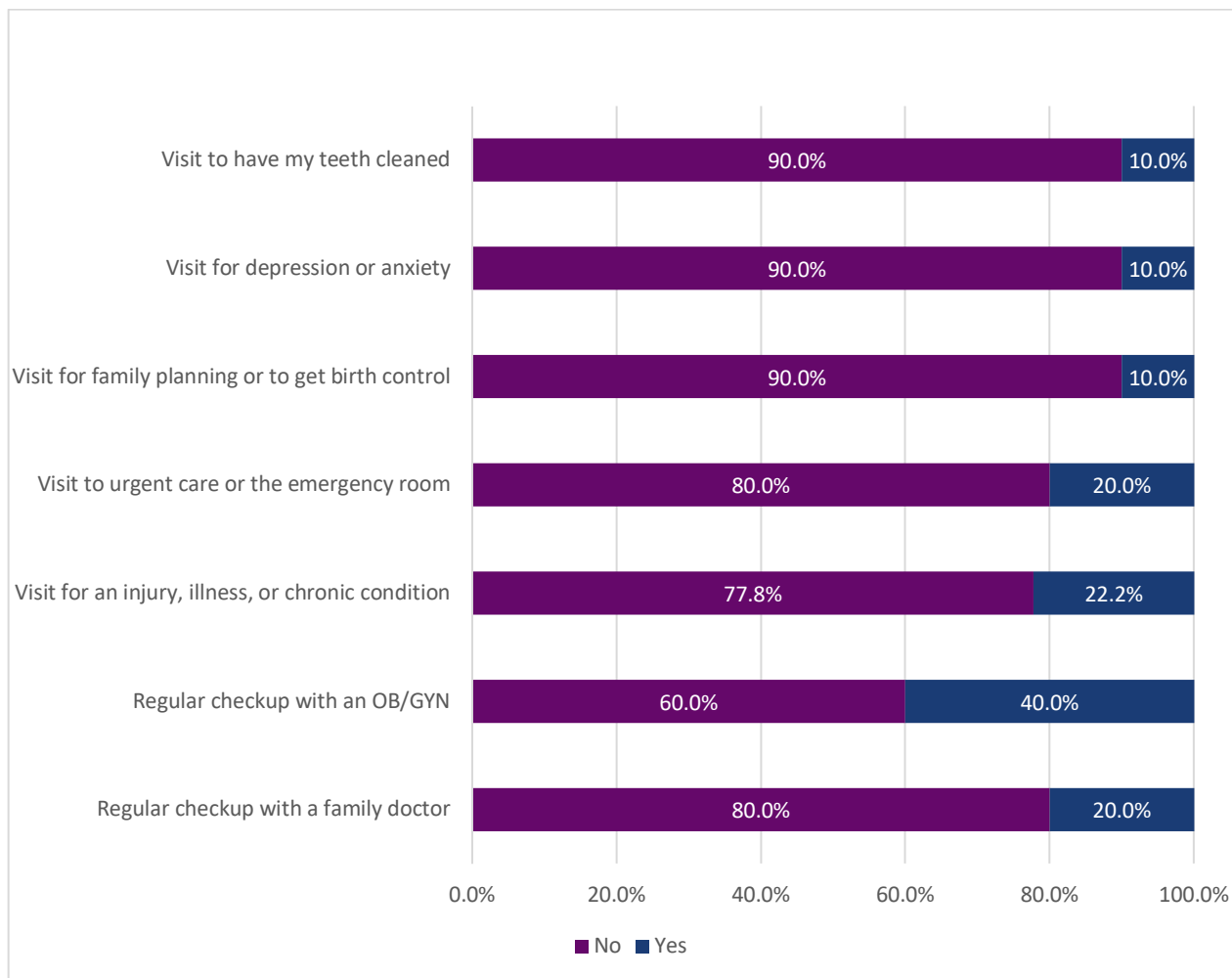
The distributions represented in Figure 16 shows that all respondents had no difficulty running errands alone, bathing/dressing themselves, concentrating/remembering, walking/climbing stairs and hearing. Only one (10.0%) respondent indicated that she had difficulty seeing.



**Figure 16: Distributions of activities/conditions of respondents before they got pregnant (Question 2)**

## 6.2 Respondents' healthcare visits in the 12 months before they got pregnant with their new baby

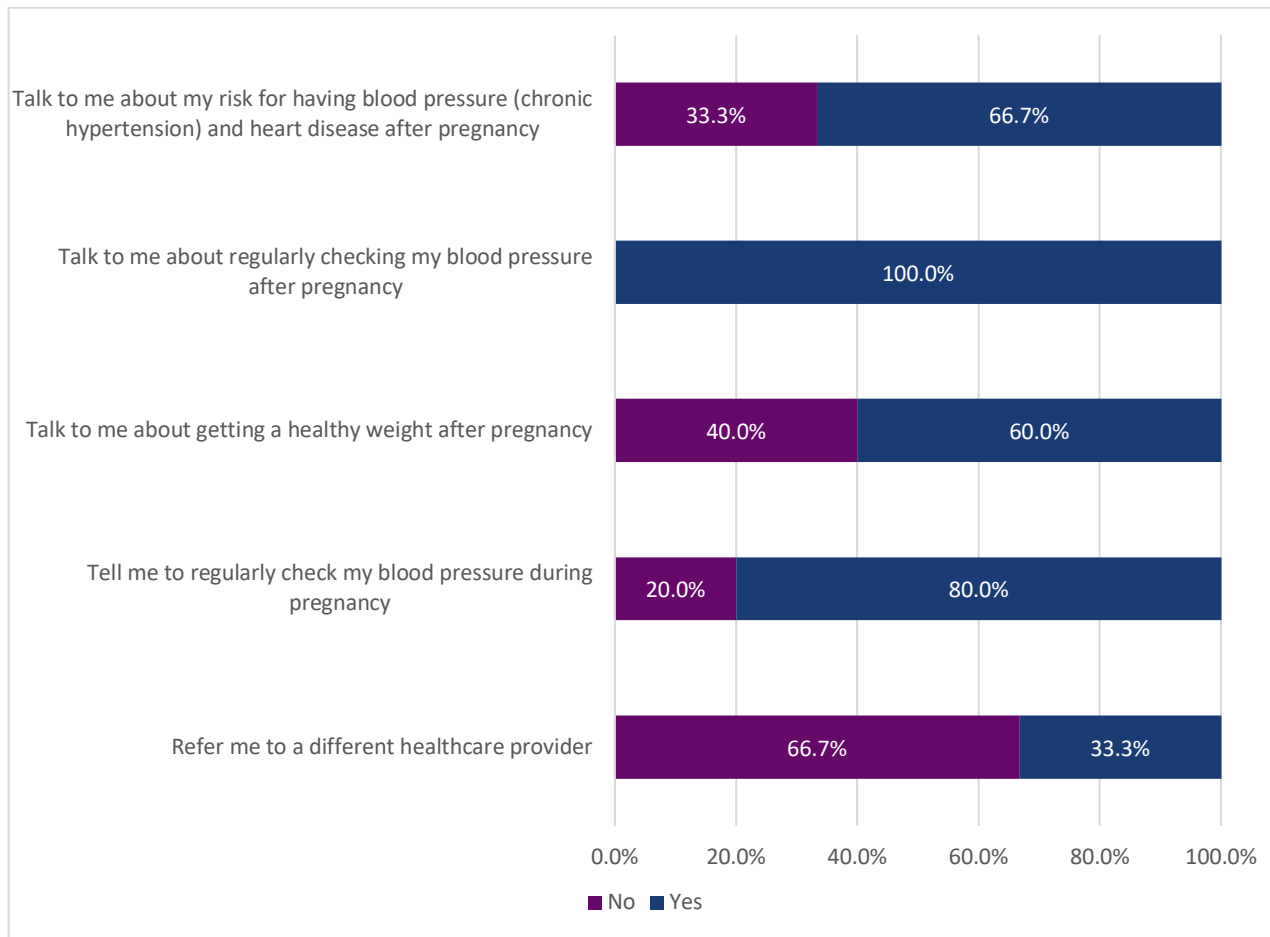
Only four of ten (40.0%) respondents had regular checkup with an OB/GYN, while 2 respondents had check up with their family doctor and used urgent care in the 12 months before they got pregnant. These are represented in Figure 17.



**Figure 17: Healthcare visits in the 12 months before respondents got pregnant with their new baby (Question 4)**

### **6.3 Healthcare provider’s management of respondents’ high blood pressure during their most recent pregnancy**

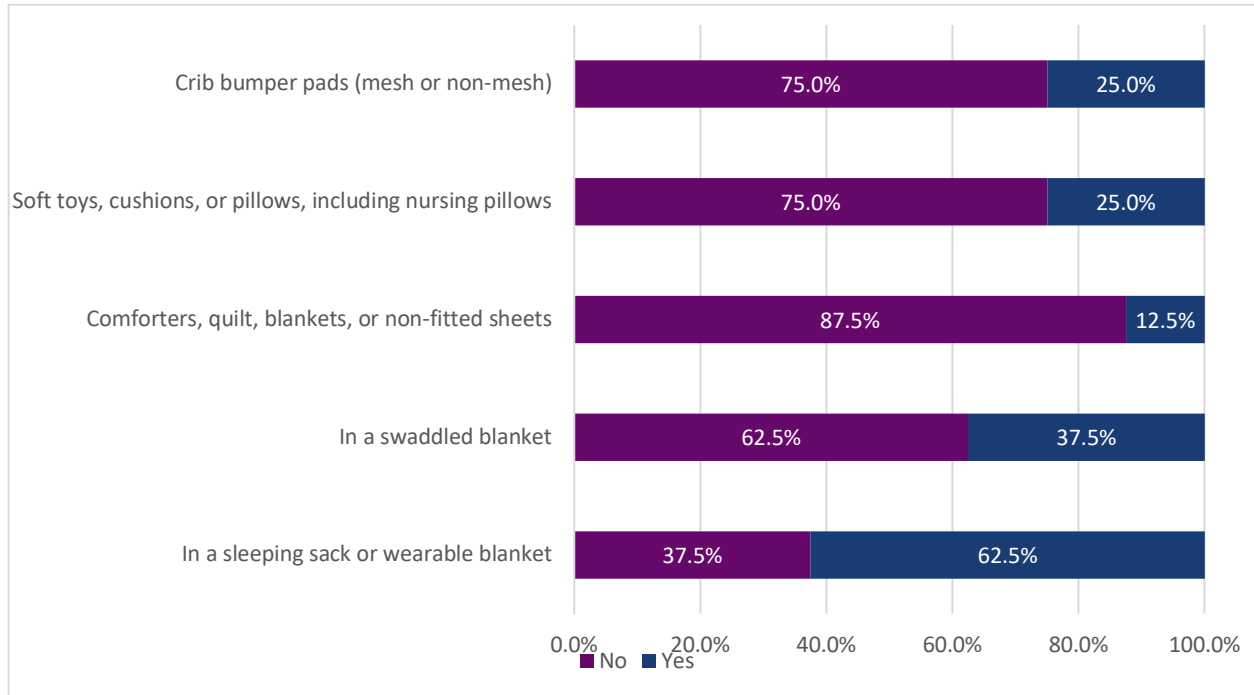
All (100.0%) and eight (80.0%) respondents reported that their healthcare provider talked to them about checking their blood pressure regularly after pregnancy and during pregnancy respectively. Two of six (33.3%) reported that they were referred to another health provider while four of six respondents (66.7%) acknowledged that their healthcare provider talked to them about their risk of having hypertension after pregnancy. These distributions are represented in Figure 18.



**Figure 18: Healthcare provider’s management of respondents’ high blood pressure during their most recent pregnancy (Question 16)**

#### **6.4 Items that respondents’ new baby have been placed to sleep with, in the 2 weeks before the survey**

Five of eight (62.5%) and three of eight respondents (37.5%) respondents acknowledged that their babies slept in a sleeping sack/wearable blanket and swaddled blanket in the 2 weeks before the survey, respectively. The item category least used to place baby to sleep in the two weeks before the survey were comforters/quilts/non-fitted sheets, which was reported by one of eight (12.5%) of respondents. These are represented in Figure 19 below:



**Figure 19: Items that respondents' new baby have been placed to sleep with in the 2 weeks before the survey (Question 40)**



### Core Testing Demographics

10 women participated in the core testing phase. Most participants were between 30-39 (50.0%). Household incomes were mostly fairly distributed among the different categories, with most earning between \$25,001-\$50,000 (44.4%). When reporting education, only 10% identified as “Less than High School”, while the remaining participants have at least completed High School. Half of the participants reported their ethnicity as Hispanic (50.0%), 30.0% as Non-Hispanic Black (NH-Black), 10.0% as Non-Hispanic White (NH-White), and 10.0% as Other. 50% of participants reported English as their primary language, while the remaining 50% reported Spanish. 80.0% of the participants reported the age of their youngest child as 3 months or less, while the remaining reported their child older than 3 months.

Table 1. Core Testing Demographics

Greater than high school	4	40.0%
High School	5	50.0%
Less than High School	1	10.0%
Less than \$25000	2	22.2%
\$25001-\$50000	4	44.4%
\$50001-\$85000	1	11.1%
\$85000+	2	22.2%
Under 30	4	40.0%
30-39	5	50.0%
40 and over	1	10.0%
Hispanic	5	50.0%
NH-Black	3	30.0%
NH-White	1	10.0%
Other	1	10.0%
English	5	50.0%
Spanish	5	50.0%
0-3 months	8	80.0%
3-6 months	1	10.0%
9-12 months	1	10.0%

## Results

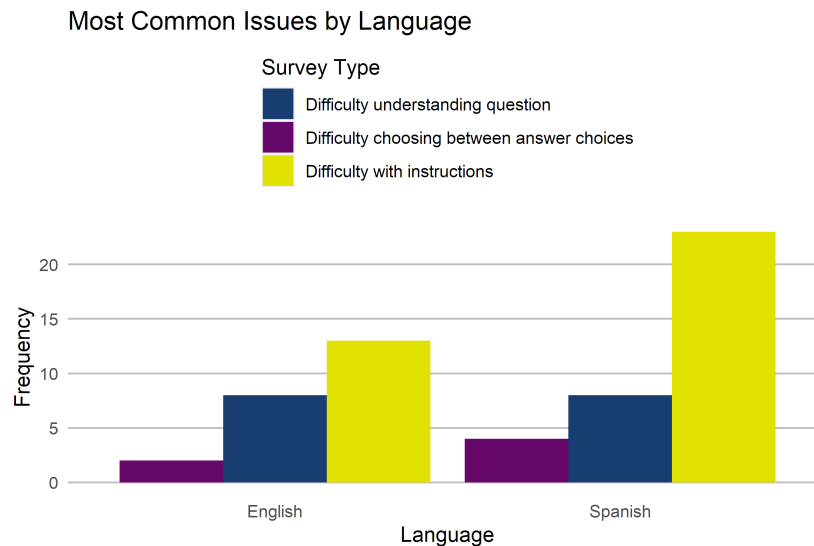
### Question Analysis

All survey participants were asked the following questions:

1. Were the questions hard or easy to understand?
2. Did you have any trouble choosing between the answer choices?
3. Were the instructions clear?

From these questions, analysis was conducted to determine if survey participants encountered one of these issues more than the other, while considering the language of the. See Figure 1, where it can be visually observed that the most common issue seen was difficulty with the instructions.

Figure 1. Most Common Issues



Analysis of Variance (ANOVA) (two-way) was used to determine if this effect was statistically significant (See Table 2 for ANOVA results). It was found that there is a statistically significant difference between average amount of issues reported based off the issue type.

Table 2. ANOVA Results

term	Sum Sq	Df	F value	Pr(>F)
(Intercept)	22.431	1	7.074	0.019
issue_type	23.981	2	3.781	<b>0.049</b>
survey_language	13.564	1	4.278	0.058
Residuals	44.394	14		

Furthermore, it was observed that a participant may report between .02 and 5.73 (on average 2.875) more questions with the Issue #3 (issues with instructions) more than they would for Issue #2 (issues choosing between answer choices). This was determined using a Tukey’s HSD test where the results were found significant at the  $\alpha = .05$  level (See Table 3 for Tukey HSD results)

Table 3. Tukey's HSD Results

term	diff	lwr	upr	p adj
Issue 2- Issue 1	-0.91667	-3.92512	2.091791	0.7106
Issue 3- Issue 1	1.958333	-0.55872	4.47539	0.140032
Issue 3- Issue 2	<b>2.875</b>	0.020927	5.729074	<b>0.048253</b>

Core Testing Question-by-Question Detailed Analysis

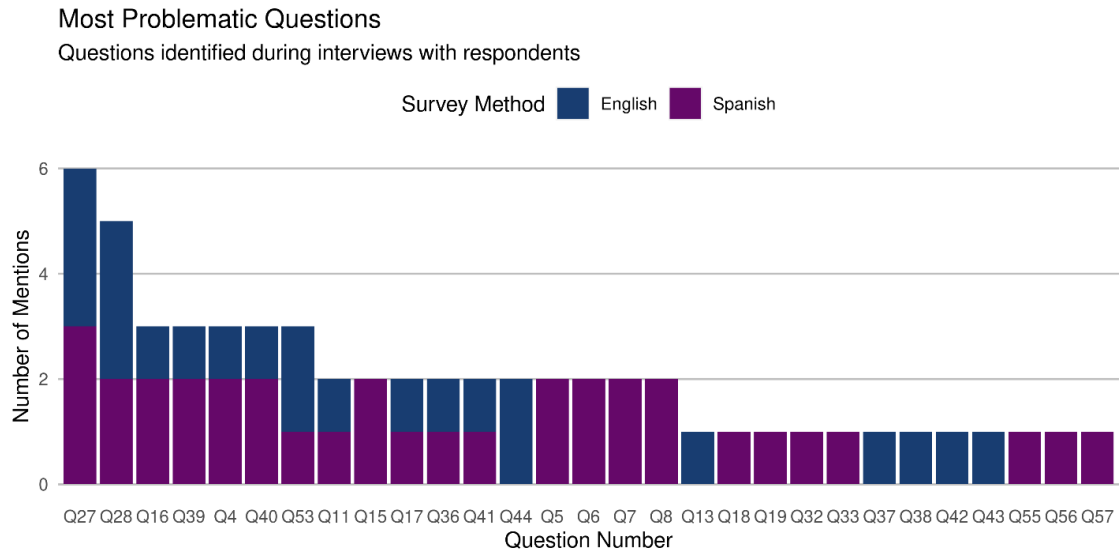
From the interviews, all respondents believed **overall** that all the questions were easy to understand, there was low to no difficulty choosing between answer choices, however, on average there was moderate difficulty experienced with understanding and following the instructions provided.

Some of the most discussed topics during the interviews that can be seen throughout the question-by-question analysis are (in no particular order):

1. Instruction boxes telling participants to skip the next question if they answered yes/no, were oftentimes missed.
2. Questions requiring yes/no responses for multiple sub-questions were oftentimes misunderstood.
3. Instruction boxes between questions informing participants to skip certain sections if certain conditions applied, were oftentimes missed.
4. Translation errors (Spanish).
5. Participants expressed survey fatigue, typically by around question 35+.

30 questions (See Figure 2- Most Problematic Questions by Language) were directly mentioned during the interviews with the participants. 18 of these 30 questions were mentioned two or more times by different participants. This section of the report will discuss in detail the notes provided to the interviewers for each one of these 18 questions, beginning with the most reported questions in descending order. The next section *Core Testing Question Abbreviated Analysis* will cover the remaining 12 questions in an abbreviated format.

Figure 2. Most Problematic Questions by Language



**Question 27— Mentioned 6 times (3x English 3x Spanish)**

Figure 3. Q27: English Mail

**27. During your most recent pregnancy, did you have any alcoholic drinks during...**

	No	Yes
a. The first 3 months of pregnancy (1 <sup>st</sup> trimester)? <i>This includes the time before knowing you were pregnant</i> .....	<input type="checkbox"/>	<input type="checkbox"/>
b. The second 3 months of pregnancy (2 <sup>nd</sup> trimester)? .....	<input type="checkbox"/>	<input type="checkbox"/>
c. The last 3 months of pregnancy (3 <sup>rd</sup> trimester)? .....	<input type="checkbox"/>	<input type="checkbox"/>

**If you didn't have any alcoholic drinks during your pregnancy, go to Question Core 29.**

**Discussion:**

Participants oftentimes would visually miss the instruction box between Q27 and Q28, and rather than skipping Q28 to proceed to Q29, they would proceed to answer Q28.

**Recommendation:**

Change position of instruction box between Q27 and Q28 to top of column or within question box.

**Question 28— Mentioned 5 times (3x English 2x Spanish)**

**Discussion:**

*See discussion for Question 27.*

**Recommendation:**

*See recommendation for Question 27.*

**Question 16— Mentioned 3 times (3x English 3x Spanish)**

Figure 4. Q16: English Mail

**If you had high blood pressure before or during your pregnancy, go to Question Core 16. If not, go to Question Core 17.**

**16. During your most recent pregnancy, did a healthcare provider do any of the things to help you manage your high blood pressure?**

	No	Yes
a. Refer me to a different healthcare provider.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Tell me to regularly check my blood pressure <i>during</i> pregnancy.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Talk to me about getting to a healthy weight <i>after</i> pregnancy.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Talk to me about regularly checking my blood pressure <i>after</i> pregnancy .....	<input type="checkbox"/>	<input type="checkbox"/>
e. Talk to me about my risk for having high blood pressure (chronic hypertension) and heart disease <i>after</i> pregnancy.....	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

Participants oftentimes would visually miss the instruction box between Q15 and Q16.

Additionally, one participant also had trouble interpreting the instructions for this question— “If you had high blood pressure before or during your pregnancy, go to Question Core 16, if not, go to Question Core 17.” The respondent stated she had to re-read instruction several times to determine whether it was asking her to proceed to Question Core 16 only if she had high blood pressure during one of the two time periods (before or during pregnancy) or if she had high blood pressure during one of the two as well as both time periods.

**Recommendation:**

For the instruction box prior to Q16, add and/or to the instruction statement to clarify confusion between before or during pregnancy - If you had high blood pressure before and/or during your pregnancy, go to Question Core 16, if not, go to Question Core 17

For instruction boxes between questions, consider adding a bolder definition to the instruction box so that it is more visually noticeable. Add bold letters, shadows, colors or add Please Read notices within instruction boxes to make clearer an instruction will change the flow of answering questions.

**Question 39— Mentioned 3 times (1x English 2x Spanish)**

Figure 5. Q39: English Mail

39. In the past 2 weeks, where have you placed your new baby to sleep at night or during naps?

	No	Yes
a. In a crib, portable crib, or bassinet .....	<input type="checkbox"/>	<input type="checkbox"/>
b. On a twin or larger mattress or bed .....	<input type="checkbox"/>	<input type="checkbox"/>
c. On a couch, sofa, or armchair.....	<input type="checkbox"/>	<input type="checkbox"/>
d. In an infant car seat.....	<input type="checkbox"/>	<input type="checkbox"/>
e. In a swing, rocker, or other inclined sleeper .....	<input type="checkbox"/>	<input type="checkbox"/>
f. In an in-bed sleeper .....	<input type="checkbox"/>	<input type="checkbox"/>
g. In a baby board or cradle board .....	<input type="checkbox"/>	<input type="checkbox"/>
h. Other .....	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us:

**Discussion:**

Respondents noted they understood the question to mean they should select a single option for which way they have placed their baby to sleep in the last two weeks, as opposed to answering yes/no for each single option.

One respondent also felt confused based from the instruction box in Q32— “if your baby is still in the hospital, go to Question 41”. She wondered whether she was supposed to think about the first 2 weeks after bringing the baby home from the hospital or if she was supposed to think about the most recent 2 weeks.

Respondents also noted survey fatigue by the time they had reached this question.

**Recommendation:**

Consider making changes to the wording of this section in general. Remove the term new baby and replace it with baby or infant. And replace new baby with newborn for questions that are pertaining to the time period in the hospital after baby was born or right after coming home from hospital.

Consider an instruction box that instructs respondent to check Yes and No for each sub-question if it applies to them, similar to the instructions included in Q3 and Q53.

Consider reducing the number of questions or breaking up the survey into two parts to address potential survey fatigue.



**Question 4— Mentioned 3 times (1x English 2x Spanish)**

Figure 6. Q4: English Mail

**4. In the 12 months before you got pregnant with your new baby, did you have any of the following healthcare visits?**

	No	Yes
a. Regular checkup with a family doctor.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Regular checkup with an OB/GYN .....	<input type="checkbox"/>	<input type="checkbox"/>
c. Visit for an injury, illness, or chronic condition .....	<input type="checkbox"/>	<input type="checkbox"/>
d. Visit to urgent care or the emergency room .....	<input type="checkbox"/>	<input type="checkbox"/>
e. Visit for family planning or to get birth control .....	<input type="checkbox"/>	<input type="checkbox"/>
f. Visit for depression or anxiety .....	<input type="checkbox"/>	<input type="checkbox"/>
g. Visit to have my teeth cleaned .....	<input type="checkbox"/>	<input type="checkbox"/>

**If you didn't have any healthcare visits in the 12 months before you got pregnant, go to Question Core 6.**

**Discussion:**

Participants oftentimes would visually miss the instruction box between Q4 and Q5.

**Recommendation:**

Consider changing position of the instruction box to the top of Q4 so that it is visible prior to answering the question.

**Question 40— Mentioned 3 times (1x English 2x Spanish)**

Figure 7. Q40: English Mail

40. In the past 2 weeks, has your new baby been placed to sleep with the following?

	No	Yes
a. In a sleeping sack or wearable blanket....	<input type="checkbox"/>	<input type="checkbox"/>
b. In a swaddled blanket.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Comforters, quilts, blankets, or non-fitted sheets .....	<input type="checkbox"/>	<input type="checkbox"/>
d. Soft toys, cushions, or pillows, including nursing pillows .....	<input type="checkbox"/>	<input type="checkbox"/>
e. Crib bumper pads (mesh or non-mesh) ...	<input type="checkbox"/>	<input type="checkbox"/>
f. Other .....	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us:

**Discussion:**

Respondents noted they understood the question to mean they should select a single option from the sub-question, as opposed to answering yes/no for each single option.

Respondents also noted survey fatigue by the time they had reached this question.

**Recommendation:**

Consider an instruction box that instructs respondent to check Yes and No for each sub-question if it applies to them, similar to the instructions included in Q3 and Q53.

Consider reducing the number of questions or breaking up the survey into two parts to address potential survey fatigue.

**Question 53— Mentioned 3 times (2x English 1x Spanish)**

Figure 8.Q53: English Mail

53. Did you experience discrimination or were you prevented from doing something, hassled, or made to feel inferior while getting healthcare during your pregnancy, at delivery, or at postpartum care? For each item, check No if you did not experience discrimination because of it or Yes if you did.

	No	Yes
a. My race, ethnicity, or skin color .....	<input type="checkbox"/>	<input type="checkbox"/>
b. My disability status .....	<input type="checkbox"/>	<input type="checkbox"/>
c. My immigration status.....	<input type="checkbox"/>	<input type="checkbox"/>
d. My age .....	<input type="checkbox"/>	<input type="checkbox"/>
e. My weight.....	<input type="checkbox"/>	<input type="checkbox"/>
f. My income.....	<input type="checkbox"/>	<input type="checkbox"/>
g. My sex or gender .....	<input type="checkbox"/>	<input type="checkbox"/>
h. My sexual orientation.....	<input type="checkbox"/>	<input type="checkbox"/>
i. My religion .....	<input type="checkbox"/>	<input type="checkbox"/>
j. My language or accent .....	<input type="checkbox"/>	<input type="checkbox"/>
k. My type or lack of health insurance.....	<input type="checkbox"/>	<input type="checkbox"/>
l. My substance use (alcohol, tobacco, or other drugs).....	<input type="checkbox"/>	<input type="checkbox"/>
m. My involvement with the justice system (jail, prison) .....	<input type="checkbox"/>	<input type="checkbox"/>
n. Other .....	<input type="checkbox"/>	<input type="checkbox"/>

Please tell us:

**Discussion:**

Respondents noted they understood the question to mean they should select a single option from the sub-question, as opposed to answering yes/no for each single option.

One respondent also noted experiencing some confusion and difficulty with fully understanding what was meant by postpartum care in Q53.

Respondents also noted survey fatigue by the time they had reached this question.

**Recommendation:**

Consider an instruction box that instructs respondent to check Yes and No for each sub-question if it applies to them, similar to the instructions included in Q3 and Q53.

Consider defining postpartum care to include time period and type of postpartum care that is being referred to in this question.

Consider reducing the number of questions or breaking up the survey into two parts to address potential survey fatigue.

**Question 11— Mentioned 2 times (1x English 1x Spanish)**

*Figure 9. Q11: English Mail*

11. During any of your prenatal care visits, did a healthcare provider do any of the following things?

	No	Yes
<b>Talk to me about...</b>		
a. How much weight I should gain during pregnancy.....	<input type="checkbox"/>	<input type="checkbox"/>
b. Doing tests to screen for birth defects or diseases that run in my family .....	<input type="checkbox"/>	<input type="checkbox"/>
c. The signs and symptoms of preterm labor (labor more than 3 weeks before the baby is due).....	<input type="checkbox"/>	<input type="checkbox"/>
d. What to do if I feel depressed during my pregnancy or after my baby is born.....	<input type="checkbox"/>	<input type="checkbox"/>
<b>Ask me...</b>		
e. If I planned to breastfeed my new baby..	<input type="checkbox"/>	<input type="checkbox"/>
f. If I planned to use birth control after my baby was born .....	<input type="checkbox"/>	<input type="checkbox"/>
g. If I was taking any prescription medication .....	<input type="checkbox"/>	<input type="checkbox"/>
h. If I smoked cigarettes or used e-cigarettes ("vapes") or other smokeless tobacco.....	<input type="checkbox"/>	<input type="checkbox"/>
i. If I was drinking alcohol .....	<input type="checkbox"/>	<input type="checkbox"/>
j. If someone was hurting me emotionally or physically.....	<input type="checkbox"/>	<input type="checkbox"/>
k. If I was using illegal drugs .....	<input type="checkbox"/>	<input type="checkbox"/>
l. If I was using marijuana.....	<input type="checkbox"/>	<input type="checkbox"/>
m. If I wanted to be tested for HIV.....	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

*English Mail*

Respondent felt confused while answering the “Ask me...” portion of the question. The use of first-person here caused the respondent to question whether she was supposed to answer yes or no if one of the boxes applied to her or if the doctor had asked her about it.

*Spanish Mail*

The respondent left several blank as she was unsure or could not remember if these topics were brought up by her provider.

**Recommendation**

*English Mail*

Consider changing the wording to “Ask you...” instead.

*Spanish Mail*

Consider adding answer choices for “do not remember/recall”.

**Question 15— Mentioned 2 times (2x Spanish)**

Figure 10. Q15: English Mail

15. Durante su embarazo más reciente, ¿un proveedor de salud le dijo que tenía alguna de las siguientes condiciones de salud?

	No	Sí
a. Diabetes gestacional (diabetes que <b>comenzó</b> durante este embarazo).....	<input type="checkbox"/>	<input type="checkbox"/>
b. Presión alta (que <b>desarrolló</b> durante este embarazo), preeclampsia o eclampsia.....	<input type="checkbox"/>	<input type="checkbox"/>
c. Depresión.....	<input type="checkbox"/>	<input type="checkbox"/>
d. Ansiedad.....	<input type="checkbox"/>	<input type="checkbox"/>

**Si tuvo presión alta antes o durante su embarazo, pase a la Pregunta 16, si no, pase a la Pregunta 17.**

**Discussion:**

Participants oftentimes would visually miss the instruction box between Q15 and Q16.

**Recommendation:**

For instruction boxes between questions, consider adding a bolder definition to the instruction box so that it is more visually noticeable. Add bold letters, shadows, colors or add Please Read notices within instruction boxes to make clearer an instruction will change the flow of answering questions.

**Question 17— Mentioned 2 times (1x English, 1x Spanish)**

*Figure 11.Q17: English Mail*

17. During your most recent pregnancy, did you get information about “warning signs” you should watch for during and after your pregnancy that require immediate medical attention? Some of these “warning signs” include fever, frequent or severe headaches, or severe stomach pain.

No  Yes

Go to Question 19

The image shows a survey question with two radio button options: 'No' and 'Yes'. The 'No' option is selected, and a blue arrow points from it to a box labeled 'Go to Question 19'. A separate arrow points from the 'Yes' option down and to the left.

**Discussion:**

Respondents noted difficulty noticing the instruction box directing the reader to Question 19 when checking the “no” box.

**Recommendation:**

Consider moving the instruction box closer to the “No” and changing wording to be more deliberate such as: “If you answered no, proceed to Question 19”.

**Question 36— Mentioned 2 times (1x English, 1x Spanish)**

*Figure 12.Q36: English Mail*

**36. In the past 2 weeks, how did you place your new baby to sleep at night and during naps?**

	No	Yes
a. On their side .....	<input type="checkbox"/>	<input type="checkbox"/>
b. On their back.....	<input type="checkbox"/>	<input type="checkbox"/>
c. On their stomach.....	<input type="checkbox"/>	<input type="checkbox"/>

**Discussion:**

Respondents noted they understood the question to mean they should select a single option from the sub-question, as opposed to answering yes/no for each single option.

**Recommendation:**

Consider an instruction box that instructs respondent to check Yes and No for each sub-question if it applies to them, similar to the instructions included in Q3 and Q53.

**Question 41— Mentioned 2 times (1x English, 1x Spanish)**

*Figure 13.Q41: English Mail*

41. Are you or your spouse or partner doing anything *now* to keep from getting pregnant? This can include having your tubes tied, using birth control pills, condoms, natural family planning, or other methods.

No

Yes

Go to Question 43

**Discussion:**

One respondent noted there were two questions that Q41 lacked answer choices that applied to her. She noted that she and her spouse have not yet made a decision about birth control given that they are only in the early stages of the postpartum period. The wording of the question implies that some mothers are answering “no” out of a personal choice.

One respondent thought the arrow pointing toward the instruction box instructing her to go to Q43 was meant for her answer of No.

**Recommendation:**

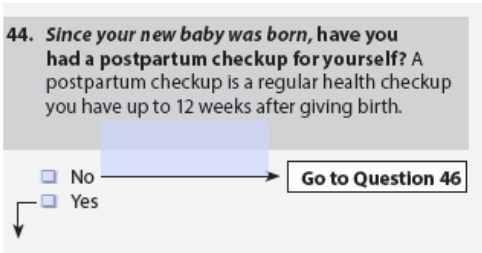
Consider rephrasing the question to specifically ask if a method of birth control is being used, rather than asking if they are doing anything to prevent pregnancy.

Consider creating more space and greater distance between Yes / No boxes and arrows, so that it is visually more bold and clear which direction to go in for each answer. Also, include additional instruction within instruction box such as: “If you answered Yes, go to Question X”.



**Question 44— Mentioned 2 times (2x English)**

Figure 14. Q44: English Mail



**Discussion:**

Respondents noted that they had not attended this appointment since they recently gave birth, however they have appointments scheduled. They did not know to include this information, as it seems that they had missed this appointment although they are just not far enough in their postpartum period. However, one participant also missed the instruction box for answering no instructing her to proceed to Q46.

**Recommendation:**

Consider moving the instruction box closer to the No and changing wording to if answered No, skip Question 45, Go to Question 46.

**Question 5— Mentioned 2 times (2x Spanish)**

**Discussion:**

*See discussion for Question 4.*

**Recommendation:**

*See recommendation for Question 4.*

**Question 6— Mentioned 2 times (2x Spanish)**

Figure 15.Q6: English Mail

6. Durante el *mes antes* de quedar embarazada de su nuevo bebé, ¿qué tipo de seguro médico tenía usted?

Marque **TODAS** las que correspondan

- Seguro médico privado (que yo u otra persona paga, o a través del trabajo)
- Medicaid
- Otro seguro médico → Por favor escríbalo:
- No tenía ningún seguro médico durante el *mes antes* de quedar embarazada

**Discussion:**

One respondent felt Q6, Q7, and Q8 were repetitive. These three questions are about the exact same topic (health insurance) but are asking about 3 different periods of time (before, during, and after pregnancy).

One respondent explained that she could not find an option that applied to her situation. She did not have private health insurance, Medicaid, or another type of health insurance but she did have health coverage through the hospital where she was receiving medical care. She described this as a plan that she had to submit an application to and provide proof of income to qualify and receive discounted rates.

**Recommendation:**

Consider moving each question to the appropriate section of the survey since the survey is defined by time periods.

Consider adding an option that includes this type of health benefit.

## **Question 7— Mentioned 2 times (2x Spanish)**

Figure 16.Q7: Spanish Mail

7. Durante su *embarazo más reciente*, ¿qué tipo de seguro médico tenía usted?

Marque **TODAS** las que correspondan

Seguro médico privado (que yo u otra persona paga, o a través del trabajo)

Medicaid

Otro seguro médico → Por favor escríbalo:

No tuve seguro médico *durante mi embarazo*

### **Discussion:**

One respondent felt Q6, Q7, and Q8 were repetitive. These three questions are about the exact same topic (health insurance) but are asking about 3 different periods of time (before, during, and after pregnancy).

One respondent explained that she could not find an option that applied to her situation. She did not have private health insurance, Medicaid, or another type of health insurance but she did have health coverage through the hospital where she was receiving medical care. She described this as a plan that she had to submit an application to and provide proof of income to qualify and receive discounted rates.

### **Recommendation:**

Consider moving each question to the appropriate section of the survey since the survey is defined by time periods.

Consider adding an option that includes this type of health benefit.

**Question 8— Mentioned 2 times (2x Spanish)**

Figure 17.Q8: Spanish Mail

8. ¿Qué tipo de seguro médico tenía usted *ahora*?

Marque **TODAS** las que correspondan

Seguro médico privado (que yo u otra persona paga, o a través del trabajo)

Medicaid

Otro seguro médico → Por favor escríbalo:

No tengo ningún seguro médico *ahora*

**Discussion:**

One respondent felt Q6, Q7, and Q8 were repetitive. These three questions are about the exact same topic (health insurance) but are asking about 3 different periods of time (before, during, and after pregnancy).

One respondent explained that she could not find an option that applied to her situation. She did not have private health insurance, Medicaid, or another type of health insurance but she did have health coverage through the hospital where she was receiving medical care. She described this as a plan that she had to submit an application to and provide proof of income to qualify and receive discounted rates.

There is also a translation error, with “tenía” being the past tense of have, when this question is asking about the current time.

**Recommendation:**

Consider moving each question to the appropriate section of the survey since the survey is defined by time periods.

Consider adding an option that includes this type of health benefit.

Change “tenía” to “tiene” in this question.

## Core Testing Question Abbreviated Analysis

As previously discussed, 18 of 30 questions were mentioned two or more times by different participants. In this section, the remaining 12 of 30 questions will be discussed in an abbreviated format. The full interviewer notes from the participants can be found in *Appendix A- Core Testing Final Summary Report*.

Q19, Q33, Q42, Q43, Q55	Participant experienced difficulty noticing or understanding the instruction boxes after answering yes/no	Bring instruction box closer to the yes/no options and possibly make bolder to make instructions more noticeable.
Q37, Q38	Participant were confused by the term “new baby”. Whether this is the first 2 weeks after birth or the most recent two weeks.	Consider making changes to the wording of this section in general. Remove the term new baby and replace it with baby or infant. And replace new baby with newborn for questions that are pertaining to the time period in the hospital after baby was born or right after coming home from hospital.
Q56, Q57	Participant did not understand the term “ingreso” in reference to income.	Change “ingreso” to either “salario” or “sueldo” which are more common terms in Spanish across different countries.
Q13	Participants received 2 COVID vaccinations prior to pregnancy and 1 booster during pregnancy. She did not know how to answer this question.	Consider using clearer language or include instructions that you are able to select more than one box (before, during, after), for each option.
Q18	Participant did not understand the meaning of “senales de advertencia”, and did not realize this question was related to Q17.	Add the same definition for warning signs that is included in Q17. Or make Q17 and 2-part question.
Q32	Participant she stated she was unsure if the question was asking whether her baby stayed in the hospital extra days without her (she thought about babies that go to NICU) or if the question referred to the time period they were both in the hospital together.	Consider rewording question to make clear that the question means how long did a mother and her baby stay together at the hospital post-birth.

## 7.0 CONCLUSIONS

The results presented in this report largely attest to the appropriateness of the maternal and child health questionnaire (core). Appropriateness was boldly demonstrated in respondents' unanimous acknowledgement of ease in choosing answers. In addition, an overwhelming majority of respondents reported that they had no difficulty in comprehending the questions. Furthermore, spoken language of respondents, education and race are independent of respondents' opinions regarding quality of instructions, difficulty/ease in the comprehension of questions and difficulty/ease in making choices of answers. However, it is rather noticeable that perceived quality of instructions was not robust. This suggests that there is a considerable room for improvement, as also supported by the qualitative data.

## 8.0 RECOMMENDATIONS

The following are recommendations from the data:

1. Consider changing the position of instruction boxes between questions 4 and 5; 27, 28 and 29; 42 and 48 to the top of the next column or within question box.
2. Consider moving questions 6, 7 and 8 to the appropriate section of the questionnaire since the questionnaire is defined by time periods (before, during and after pregnancy).
3. In question 8, consider re-translating the word "tenia" being the past tense of have. This question is asking about current so the correct word is "tiene". The corrected statement should read: ¿Qué tipo de seguro médico tiene usted ahora?
4. In question 11, consider adding answer choice option do not remember or do not recall.
5. In question 32, consider rewording to make clear that the question means how long did a mother and her baby stay together at the hospital post-birth.
6. In question 53, consider providing a brief explanation of postpartum care.
7. For questions 56 and 57, consider adding and/or changing ingreso total to salario or sueldo, which are more commonly used terms to define income made.

8. For questions 36, 39 and 40, add an instruction box that instructs respondent to check Yes and No for each sub-question if it applies to them, similar to instruction included in questions 3 and 53.
9. For question 53, move the instruction outside of the main question to its own instruction box to make more clear an answer is needed for each sub-question.
10. For the instruction box prior to question 16, add and/or to the instruction statement to clarify confusion between before or during pregnancy - If you had high blood pressure before and/or during your pregnancy, go to Question Core 16, if not, go to Question Core 17
11. The introduction to the section and questions 44, 46, 47, 48, 49, 51, 56, and 57 includes the statement: since your new baby was born. This statement implies a baby was born and remains alive. A statement should be added to indicate sensitivity to the fact that the child might not be alive.
12. In question 41, consider creating more space and greater distance between Yes/No boxes and arrows, so that it is visually bolder and clearer which direction to go for each answer.
13. To get rid of survey fatigue, consider reducing the number of questions.



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Appendix 1: Case summaries of all respondents (N = 10)

	Name	Respondent_ID	Age	Race	Language	Highest_Education	Household_Income	Age_of_the_youngest_child	Date_of_Birth
1	Erica	BFA-MI-001	34	Hispanic	English	Greater than High School	\$85,001 and above	4 months	03/17/1988
2	Bella	BFA-MI-002	30	Black Non-Hispanic	English	Greater than High School	\$50,001 to \$85,000	10 months	11/09/1981
3	Bree	BFA-MI-003	22	Black Non-Hispanic	English	High School	Less than \$25,000	1 month	01/29/2000
4	Meredith	BFA-MI-004	38	White Non-Hispanic	English	Greater than High School	\$85,001 and above	3 weeks	03/01/1984
5	Bailey	BFA-MI-005	31	Black Non-Hispanic	English	Greater than High School	\$25,001 to \$50,000	2 weeks 1 day	03/12/1991
6	Catalina	BFA-MA-001	22	Hispanic	Spanish	Less than High School	Less than \$25,000	5 days	12/09/2000
7	Luca	BFA-MA-002	36	0	Spanish	High School	\$25,001 to \$50,000	19 days	10/08/1985
8	Esmeralda	BFA-MA-003	36	Hispanic	Spanish	High School	\$25,001 to \$50,000	1 week	07/26/1986
9	Juanita	BFA-MA-004	28	Hispanic	Spanish	High School	\$25,001 to \$50,000	5 days	06/16/1994
10	Andrea	BFA-MA-005	29	Hispanic	Spanish	High School	0	3 days	01/10/1993
Total N	10	10	9	9	10	10	9	10	10

## Appendix 2: The Code of Ambiguity of Instructions

**Name:** Nodes\Ambiguity of Instructions

<Internals\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [23.29% Coverage]

Reference 1 - 23.29% Coverage

She did experience some difficulty with a few questions.

Respondent missed instruction box between Q27 and Q28. She noted she did not notice or read it.

For Q36, Q39, Q40, Q53, and Q55 respondent noted she understood the questions to mean she was only to respond the one way in which the question applied to her. She wanted to just answer Yes for the one way that she puts her baby to sleep in Q36, Q39 and Q40. And in Q53 she was overwhelmed by the amount of options and felt compelled to just choose the one that she felt applied to her. For Q55, she read the main questions and circled No because she has never experienced discrimination, and then saw that none of the individual situations applied to her either so she left her originally marked answer.

Survey fatigue was also noted as a factor with Q36, Q39, Q40, Q53, and Q55, she was becoming tired of the questions and of having to mark each individual box.

<Internals\Bailey, 31, Black non-hispanic, English, Greater than high school, Income is 25001 - \$50000, Mail, BFA-MI-005(CORE)> - § 1 reference coded [7.20% Coverage]

Reference 1 - 7.20% Coverage

however she did miss instruction box between Q27 and Q28, causing her to answer Q28 which did not apply to her.

<Internals\Bella, 40, Black Non-hispanic, English, greater than high school, Income is \$50001 - \$85000, Mail BFA-MI-002(CORE)> - § 1 reference coded [12.23% Coverage]

Reference 1 - 12.23% Coverage

However, respondent did show difficulty with the instruction box between Q27 and Q28. She missed seeing this instruction box and rather than skipping Q28 to proceed to Q29, since she had not consumed any alcohol during her pregnancy, she answered Q28. Similar experience occurred between Q42 and Q43.

<Internals\Bree, 22, Black non-hispanic, English, High school, less than \$25000, Mail, BFA-MI-003(CORE)> - § 1 reference coded [32.05% Coverage]

Reference 1 - 32.05% Coverage

Respondent experienced difficulty repeatedly with instruction boxes throughout survey. She missed seeing instruction boxes between Q4 and Q5, as well as Q27 and Q28, She also experienced difficulty with Q44, noting she has not yet had her postpartum checkup due to only recently giving birth, however an appointment is scheduled for this checkup in the coming weeks. In reading this question she wondered whether she should include this information and then missed the instruction box with an arrow directing her to go to Q46 if she answered No. She noted it would have been helpful to have this instruction box closer to the No, or worded differently. She also experienced this difficulty with instruction box in Q17.

<Internals\Catalina, 22, Hispanic, Spanish, Less than high school, Income is less than \$25000, high school, mail. BFA-MA-001(S.CORE)> - § 1 reference coded [41.05% Coverage]

Reference 1 - 41.05% Coverage

Respondent experienced some difficulty with instruction boxes placed between Q4 and Q5. She noted while she did notice and read the instruction box, she did not fully comprehend instruction and therefore proceeded to the next question even though due to her answers to Q4 she should have proceeded to Q6. She reported the instructions that included an arrow with instruction to go to a specific question were more helpful and easier to understand than the instruction boxes.

Respondent also experienced difficulty with Q27, as she did not proceed to answer No for each sub-question, but rather circled No at the top of the column. She noted she simply answer No to the main question because she did not drink alcohol at all throughout her pregnancy and skipped reading the rest of the options in order to proceed to next question.

<Internals\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [20.99% Coverage]

Reference 1 - 20.99% Coverage

with some mild confusion experienced with instructions that offered arrows next to Yes / No answer choices. Respondent expressed that arrows pointing away from the No provide clear direction on where to go next, because it points to an instruction box that states - *Go to Question X*. However, the arrow pointing away from the Yes answer choice box does not have a similar instruction box, therefore she was left to wonder whether she was to keep going and whether she was to keep answering all questions that followed or only some questions. She assumed she was being directed to the very next question but with a sense of doubt about her decision to keep moving forward in this manner.

Respondent also noted difficulty with instruction box on page 4, before Q16 -*If you had high blood pressure before or during your pregnancy, go to Question Core 16, if not, go to Question Core 17*. Respondent stated she had to re-read instruction several times to determine whether it was asking her to proceed to Question Core 16 only if she had high blood pressure during one of the two time periods (before or during pregnancy) or if she had high blood pressure during one of the two as well as both time periods.

<Internals\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail. BFA-MA-004(S.CORE)> - § 1 reference coded [23.46% Coverage]

Reference 1 - 23.46% Coverage

She did miss the instruction box between Q15 and Q16, noting that she did not visually notice and therefore did not read instructions. This occurred again with the instruction box between Q27 and Q28.

She also experienced difficulty with instructions on Q33, proceeding to Page 8 and not answering the next set of questions on that page. She noted at this point survey fatigue was becoming significant and she read the instruction box rather quickly, only noticing the beginning of the instruction.

For Q39 and Q40 wording of the questions and lack of instruction caused respondent to interpret that she was only to answer Yes to the option that applied to her, and therefore she left all No check boxes blank.

For Q41 her answer was No to this question, however she failed to mark it. She noted that while she did not mark it, she did follow instructions but incorrectly. She thought the arrow pointing toward the instruction box instructing her to go to Q43 was meant for her answer of No. Therefore, she skipped Q42 and went to Q43, but left it blank because the question did not apply to her. She also noted survey fatigue was a factor here.

<Internals\Luca, 36, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-002(S.CORE)> - § 1 reference coded [26.53% Coverage]

Reference 1 - 26.53% Coverage

Respondent experienced difficulty throughout the survey with instruction boxes between questions, as well as Yes / No instructions with arrows pointing out to instruction boxes. Respondent exhibited mixed experience, fully understanding instructions for some questions and other times experiencing confusion. Difficulty occurred with instruction boxes between Q4 and Q5, Q15 and Q16, Q19 Y/N instruction box with arrow, Q23 Y/N instruction box with arrow.

<Internals\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [8.82% Coverage]

Reference 1 - 8.82% Coverage

Respondent noted she did not notice the section headings *Before / During / After Pregnancy*. She suggested making the whole heading of the page a defined section rather than the column alone as a way to make this more visually clear for respondents.

## Appendix 3: The Code of Clarity of Instructions

**Name:** Nodes\Clarity of Instructions

**<Internals\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [2.48% Coverage]**

**Reference 1 - 2.48% Coverage**

Respondent noted in general she was able to clearly understand instructions throughout the survey.

**<Internals\Bailey, 31, Black non-hispanic, English, Greater than high school, Income is \$25001 - \$50000, Mail, BFA-MI-005(CORE)> - § 1 reference coded [15.35% Coverage]**

**Reference 1 - 15.35% Coverage**

Respondent noted survey was “well organized and noticed the distinction of the marked sections *Before / During / After Pregnancy*, which helped her remain in that period of time. She expressed she generally noticed all of the instruction boxes.

**<Internals\Bella, 40, Black Non-hispanic, English, greater than high school, Income is \$50001 - \$85000, Mail BFA-MI-002(CORE)> - § 1 reference coded [6.99% Coverage]**

**Reference 1 - 6.99% Coverage**

Respondent noted instructions were generally clear and easy to understand. Instruction boxes were generally noticeable and “straightforward”, assisted with flow of survey.

**<Internals\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [1.04% Coverage]**

**Reference 1 - 1.04% Coverage**

Respondent stated instructions were generally understandable.

**<Internals\Esmeralda, 36, Hispanic, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-003(S.CORE)> - § 2 references coded [32.05% Coverage]**

**Reference 1 - 12.67% Coverage**

Respondent stated she was able to understand instructions clearly throughout the survey and noticed the section headings which allowed her to move from question to question easily.

### **Reference 2 - 19.38% Coverage**

She did note that personally she likes to read all questions thoroughly to make sure that she is answering questionnaires correctly, so this affected her with mistakenly answering Questions 24, 25, and 26 even though her answer to Q23 meant she should have skipped to Q27.

**<Internals\\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail, BFA-MA-004(S.CORE)> - § 1 reference coded [3.10% Coverage]**

### **Reference 1 - 3.10% Coverage**

Respondent noted instructions were generally clear for her to understand and follow, instructions with arrows in particular were identified as helpful.

**<Internals\\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [5.24% Coverage]**

### **Reference 1 - 5.24% Coverage**

Respondent noted instructions were clear to follow. She reported in general the instructions helped her to understand where to go next in the survey.

## Appendix 4: The Code of Difficulty in Understanding Questions

**Name:** Nodes\\Difficulty in understanding questions

**<Internals\\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [14.31% Coverage]**

### **Reference 1 - 14.31% Coverage**

She did experience some confusion with a couple questions.

For Q18 she was not sure what was meant by “*las señales de advertencia*” expressing that she did not connect Q18 to Q17 and therefore did not understand that the warning signs being asked about in Q18 were the same one which were defined in Q17.

For Q32, she stated she was unsure if the question was asking whether her baby stayed in the hospital extra days without her (she thought about babies that go to NICU) or if the question referred to the time period, they were both in the hospital together.

**<Internals\\Bella, 40, Black Non-hispanic, English, greater than high school, Income is \$50001 - \$85000, Mail BFA-MI-002(CORE)> - § 1 reference coded [22.88% Coverage]**

### **Reference 1 - 22.88% Coverage**

Respondent did report experiencing some confusion with Questions 36-40 which asked about baby's sleeping in the past 2 weeks. She noted due to Q32 and instruction box - *If your baby is still in the hospital, go to Question Core 41*, she wondered whether she was supposed to think about the first 2 weeks after bringing baby home from hospital or if she was supposed to think about the most recent 2 weeks. Note that respondent's baby is now 10 months old. Respondent noted she decided to answer the question thinking about the 2 weeks prior to the current date.

**<Internals\\Bree, 22, Black non-hispanic, English, High school, less than \$25000, Mail, BFA-MI-003(CORE)> - § 1 reference coded [22.09% Coverage]**

### **Reference 1 - 22.09% Coverage**

However, she did report having difficulty with Q11, noting that the *Ask me...* section of the question caused confusion about how to answer the question. The framing of the question in the first person *Ask me... if I was drinking alcohol* caused respondent to question whether she was supposed to answer No because she had not consumed alcohol during her pregnancy, or Yes because her doctor had spoken with her about this topic. She experienced similar confusion for sub-questions g, h, i, k, and l.



**<Internals\\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [12.77% Coverage]**

#### **Reference 1 - 12.77% Coverage**

She stated she did have to re-read some questions a few times to ensure that she was thinking of the correct time frame i.e., *12 months before you got pregnant, before or during your pregnancy, last 3 months of your pregnancy*. Respondent also noted experiencing some confusion and difficulty with fully understanding what was meant by *postpartum care* in Q53. She expressed that in her experience postpartum care can mean a variety of things including care at the hospital, care by lactation consultants, care from one's OBGYN, as well as in her case since her baby was in NICU, the postpartum care received by herself and her baby during that time. Therefore, she wondered which one of these the question was asking her to think about.

**<Internals\\Esmeralda, 36, Hispanic, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-003(S.CORE)> - § 1 reference coded [16.03% Coverage]**

#### **Reference 1 - 16.03% Coverage**

However, she did report becoming confused with Q3-a and stated she had to re-read several times to ensure she was interpreting correctly whether the question was asking about type 1 or type 2 diabetes, or gestational diabetes.

**<Internals\\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail. BFA-MA-004(S.CORE)> - § 1 reference coded [12.98% Coverage]**

#### **Reference 1 - 12.98% Coverage**

Although there were a few that were confusing and a few that were repetitive so she thought the same question was being asked which caused her to leave blank answers. For Q56, she did not understand the meaning of *"ingreso total"*. For Q57, while she understood the question fully, she did not understand what was being referred to when it stated *"dependian de este dinero"* because Q56 and Q57 were not connected in her mind.

Q6, Q7, and Q8 were identified as repetitive.

Additionally, she expressed the survey had too many questions, and she began to experience a desire to finish as quickly as possible midway through the survey.

**<Internals\\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [7.57% Coverage]**

#### **Reference 1 - 7.57% Coverage**

She did note Q13 caused some minor confusion related to the Covid19 vaccination being that she received two doses prior to pregnancy and a booster shot during pregnancy so she was unsure how to answer this question.

## Appendix 5: The Code of Ease in Understanding Questions

**Name:** Nodes\Ease in understanding questions

**<Internals\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [2.00% Coverage]**

### **Reference 1 - 2.00% Coverage**

Respondent noted overall she found questions to be easy and clear to understand.

**<Internals\Bailey, 31, Black non-hispanic, English, Greater than high school, Income is 25001 - \$50000, Mail, BFA-MI-005(CORE)> - § 1 reference coded [4.61% Coverage]**

### **Reference 1 - 4.61% Coverage**

Respondent noted overall she found questions to be easy to understand.

**<Internals\Bree, 22, Black non-hispanic, English, High school, less than \$25000, Mail, BFA-MI-003(CORE)> - § 1 reference coded [2.74% Coverage]**

### **Reference 1 - 2.74% Coverage**

Respondent noted in general question were easy to understand.

**<Internals\Catalina, 22, Hispanic, Spanish, Less than high school, Income is less than \$25000, high school, mail. BFA-MA-001(S.CORE)> - § 1 reference coded [3.19% Coverage]**

### **Reference 1 - 3.19% Coverage**

Respondent noted questions were generally easy to understand.

**<Internals\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [1.06% Coverage]**

### **Reference 1 - 1.06% Coverage**

Respondent noted questions were generally easy to understand.

**<Internals\Esmeralda, 36, Hispanic, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-003(S.CORE)> - § 1 reference coded [4.34% Coverage]**

### **Reference 1 - 4.34% Coverage**

Respondent noted in general question were easy to understand.

**<Internals\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail, BFA-MA-004(S.CORE)> - § 1 reference coded [1.05% Coverage]**

**Reference 1 - 1.05% Coverage**

Respondent stated she generally understood questions.

**<Internals\Luca, 36, Spanish, High school, Income is \$25001 - \$50000, Mail, BFA-MA-002(S.CORE)> - § 1 reference coded [3.73% Coverage]**

**Reference 1 - 3.73% Coverage**

Respondent stated questions were clear and easy to understand.

**<Internals\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [2.08% Coverage]**

**Reference 1 - 2.08% Coverage**

Respondent noted questions were “clear and straightforward”.

## Appendix 6: The Code of Difficulty in Choosing Answers

**Name:** Nodes\\Difficulty in choosing answer

**<Internals\\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [12.16% Coverage]**

### **Reference 1 - 12.16% Coverage**

She did state not having an answer choice that applied to her situation for Q6, Q7, and Q8, therefore leaving these blank.

Respondent explained that she did not have private health insurance, Medicaid, or another type of health insurance but she did have health coverage through the hospital where she was receiving medical care. She described this as a plan that she had to submit an application to and provide proof of income in order to qualify and receive discounted rates.

**<Internals\\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [4.71% Coverage]**

### **Reference 1 - 4.71% Coverage**

However, she did state that the questions that offered Likert scale answer options were mildly difficult for her noting that she finds the words *Sometimes* and *Rarely* to be almost the same. She suggested removing the rarely or replacing with something like *hardly at all*.

**<Internals\\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail, BFA-MA-004(S.CORE)> - § 1 reference coded [3.93% Coverage]**

### **Reference 1 - 3.93% Coverage**

However, she did have some difficulty with some answer choice options.

For Q11 she left several blank as she was unsure/could not remember if these topics were brought up by her provider.

**<Internals\\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [23.90% Coverage]**

### **Reference 1 - 23.90% Coverage**

She noted there were two questions that were lacking answer choices that applied to her situation, given that her baby is a 3-wk old newborn. Q41 and Q44 were identified. Respondent noted that she and her spouse have not yet made a decision about birth control given that they are only in the early stages of the postpartum period. So, she has not yet made a decision about birth control not because she does not want to but because she just had her baby. Similarly, she has not attended a postpartum checkup yet, but has one scheduled. She shared that answering No to Q44 felt as if she had perhaps

“missed” this appointment and not because she was too early in her postpartum period.

## Appendix 7: The Code of Ease in Choosing Answers

**Name:** Nodes\Ease in choosing answers

**<Internals\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [1.65% Coverage]**

### **Reference 1 - 1.65% Coverage**

Respondent noted in general having no trouble with answer choices.

**<Internals\Bailey, 31, Black non-hispanic, English, Greater than high school, Income is 25001 - \$50000, Mail, BFA-MI-005(CORE)> - § 1 reference coded [21.60% Coverage]**

### **Reference 1 - 21.60% Coverage**

Respondent noted she appreciated the detailed and long list of option choices provided. She also noticed and appreciated the attention to inclusive frame and language used throughout the survey. For example, the question related to birth control method in which “*We are same-sex spouses/partners*” was provided as an answer choice option.

**<Internals\Bella, 40, Black Non-hispanic, English, greater than high school, Income is \$50001 - \$85000, Mail BFA-MI-002(CORE)> - § 1 reference coded [2.93% Coverage]**

### **Reference 1 - 2.93% Coverage**

Respondent noted having no trouble choosing between answer choices.

**<Internals\Bree, 22, Black non-hispanic, English, High school, less than \$25000, Mail, BFA-MI-003(CORE)> - § 1 reference coded [5.22% Coverage]**

### **Reference 1 - 5.22% Coverage**

Respondent noted answer choices were generally easy to understand and had no trouble choosing between answer choices.

**<Internals\Catalina, 22, Hispanic, Spanish, Less than high school, Income is less than \$25000, high school, mail. BFA-MA-001(S.CORE)> - § 1 reference coded [4.07% Coverage]**

### **Reference 1 - 4.07% Coverage**

Respondent stated she generally had no trouble choosing between options given.

**<Internals\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [1.35% Coverage]**

**Reference 1 - 1.35% Coverage**

Respondent stated she generally had no trouble choosing between options given.

**<Internals\\Esmeralda, 36, Hispanic, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-003(S.CORE)> - § 1 reference coded [8.75% Coverage]**

**Reference 1 - 8.75% Coverage**

Respondent noted answer choices were generally easy to understand and had no trouble choosing between different options.

**<Internals\\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail. BFA-MA-004(S.CORE)> - § 1 reference coded [2.30% Coverage]**

**Reference 1 - 2.30% Coverage**

Respondent expressed in general answer choices were easy to pick from and did not experience significant trouble.

**<Internals\\Luca, 36, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-002(S.CORE)> - § 1 reference coded [4.40% Coverage]**

**Reference 1 - 4.40% Coverage**

Respondent did not experience difficulty choosing between answer choices.

**<Internals\\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [3.82% Coverage]**

**Reference 1 - 3.82% Coverage**

Respondent expressed in general answer choices were easy to choose from and related back well to the question.

## Appendix 8: The Code of Recommendations Regarding Ambiguous Instructions

**Name:** Nodes\Ambiguity of Instructions\Recommendations regarding ambiguous instructions

<Internals\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [23.51% Coverage]

Reference 1 - 23.51% Coverage

### Recommendations

Change position of instruction box between Q27 and Q28 to top of column or within question box. For instruction boxes between questions, consider adding a more bold definition to the instruction box so that it is more visually noticeable. Add bold letters, shadows, colors or add *Please Read* notices within instruction boxes to make more clear an instruction will change the flow of answering questions.

For Q36, Q39 and Q40: add an instruction box that instructs respondent to check Yes and No for each sub-question if it applies to them, similar to instruction included in Q3 and Q53 where it states “*Para cada una marque **No**, si no..... o **Si**, si .....*”

For Q53 move the instruction outside of the main question to its own instruction box to make more clear an answer is needed for each sub-question.

For survey fatigue: consider reducing number of questions or breaking up the survey into two parts.

<Internals\Bailey, 31, Black non-hispanic, English, Greater than high school, Income is 25001 - \$50000, Mail, BFA-MI-005(CORE)> - § 1 reference coded [6.00% Coverage]

Reference 1 - 6.00% Coverage

Change position of instruction box between Q27 and Q28 to top of column or within question box.

<Internals\Bella, 40, Black Non-hispanic, English, greater than high school, Income is \$50001 - \$85000, Mail BFA-MI-002(CORE)> - § 1 reference coded [4.27% Coverage]

Reference 1 - 4.27% Coverage

Change location of instruction box between Q28 and Q29, and Q42 and Q43 to the top of the next column.

<Internals\Bree, 22, Black non-hispanic, English, High school, less than \$25000, Mail, BFA-MI-003(CORE)> - § 1 reference coded [11.73% Coverage]

Reference 1 - 11.73% Coverage

Change location of instruction box between Q4 and Q5, and Q27 and Q28 to the top of the next column or to the top of the question.

Consider moving the instruction box closer to the No and changing wording to *if answered No, skip Question 45, Go to Question 46.*



<Internals\Catalina, 22, Hispanic, Spanish, Less than high school, Income is less than \$25000, high school, mail. BFA-MA-001(S.CORE)> - § 1 reference coded [24.96% Coverage]

Reference 1 - 24.96% Coverage

Consider changing position of the instruction box to the top of Q4 so that it is visible prior to answering the question.

Or, change instructions to provide more guidance about how to proceed, for example: "If you answered No to each question and did not attend any medical appointments in the 12 months prior to becoming pregnant, proceed to Question 6. *"Si usted no tuvo una cita de atención médica en los 12 meses antes de su embarazo y contestó NO a todas las preguntas pase a la pregunta número 6."*

<Internals\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 2 references coded [27.68% Coverage]

Reference 1 - 14.06% Coverage

For questions with Yes / No answer choices For Yes / No answer choice options with arrows pointing to instruction boxes away from the answer choices, consider adding an instruction box for the Yes answer choice as well so that respondents are clear about proceeding to the very next question.

For the instruction box prior to Q16, add and/or to the instruction statement to clarify confusion between before or during pregnancy - *If you had high blood pressure before and/or during your pregnancy, go to Question Core 16, if not, go to Question Core 17*

**Or**

Rephrase statement entirely, for example:

*If you were diagnosed with high blood pressure before becoming pregnant or you had high blood pressure during your most recent pregnancy, go to Question Core 16, if not go to Question Core 17.*

Reference 2 - 13.62% Coverage

Additionally, respondent's remarks should be taken into consideration for changes to be made in general to the After Pregnancy section.

The introduction to the section and Questions 44, 46, 47, 48, 49, 50, 51, 56, and 57 all include that statement: *since your new baby was born*. This statement implies a baby was born and remains alive, therefore mothers who have experienced the death of their babies and are completing the survey would be placed in a position where a grief response could be triggered in a manner that is difficult to manage and she would be provided no immediate support to comfort that response.

The same is true for questions prior to this section that include the statements: *before you got pregnant with your new baby* and *before your new baby was born*.

<Internals\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail. BFA-MA-004(S.CORE)> - § 1 reference coded [17.34% Coverage]

Reference 1 - 17.34% Coverage

For instruction boxes between questions, consider adding a bolder definition to the instruction box so that it is more visually noticeable. Add bold letters, shadows, colors or add *Please Read* notices within instruction boxes to make clearer an instruction will change the flow of answering questions.

For Q39 and Q40: add an instruction that instructs respondent to check Yes and No for each sub-question if it applies to them, similar to instruction included in Q3 and Q53 where it states "*Para cada una marque **No**, si no..... o **Si**, si .....*"

For Q41: consider creating more space and greater distance between Yes / No boxes and arrows, so that it is visually more bold and clear which direction to go in for each answer. Also, include additional instruction within instruction box such as, If you answered Yes, go to Question X.

<Internals\Luca, 36, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-002(S.CORE)> - § 1 reference coded [36.23% Coverage]

#### Reference 1 - 36.23% Coverage

Change the location of instruction boxes between questions to top of column or to area below question and before answer choices to make clearer that a question will be skipped when questions are answered in a certain manner.

Create definition between questions, answer choices and instruction boxes with bold letters, shadows, colors or add *Please Read* notices within instruction boxes to make clearer an instruction will change the flow of answering questions.

Include instruction boxes with arrows for both Yes and No, and add sentences with instructions such as *if answered Yes, go to Question X. If answered No, go to Question Y.*

## Appendix 9: The Code of Recommendations Regarding Difficulty in Understanding Questions

**Name:** Nodes\\Difficulty in understanding questions\\Recommendation regarding difficulty in understanding questions

**<Internals\\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [6.68% Coverage]**

### Reference 1 - 6.68% Coverage

For Q18: add the same definition for warning signs that is included in Q17. Or make Q17 and 2-part question.

For Q32: consider rewording question to make clear that the question means how long did a mother and her baby stay *together* at the hospital post-birth.

**<Internals\\Bella, 40, Black Non-hispanic, English, greater than high school, Income is \$50001 - \$85000, Mail BFA-MI-002(CORE)> - § 1 reference coded [20.93% Coverage]**

### Reference 1 - 20.93% Coverage

Consider making changes to the wording of this section in general. Remove the term *new baby*, and replace it with *baby* or *infant*. And replace *new baby* with *newborn* for questions that are pertaining to the time period in the hospital after baby was born or right after coming home from hospital.

**\*\*** in Spanish the terms would be: *newborn* is *recien nacido*, *infant* is *bebe*.

Respondent made suggestion to change phrasing of questions to: *In the most recent two weeks, at your child's current age, \_\_\_\_\_.*

**<Internals\\Bree, 22, Black non-hispanic, English, High school, less than \$25000, Mail, BFA-MI-003(CORE)> - § 1 reference coded [2.92% Coverage]**

### Reference 1 - 2.92% Coverage

Consider changing sentence structure to:

*Ask you... if you*

**<Internals\\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [2.03% Coverage]**

### Reference 1 - 2.03% Coverage

Define postpartum care to include time period and type of postpartum care that is being referred to in this question.

<Internals\\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail. BFA-MA-004(S.CORE)> - § 1 reference coded [20.12% Coverage]

### Reference 1 - 20.12% Coverage

For Q56 and Q57: add and/or change *ingreso total* to **salario** or **sueldo**, which are more commonly used terms to define income made. This is especially true for mothers that may not complete taxes, as "*ingreso total*" will not be a term that is easily recognized outside of tax preparation. Also, add the definition of what you mean by "*ingreso total*", such as "*the total amount of money you and/or your spouse/partner earned from your job*".

For Q6, Q7, and Q8: note that these three questions are about the exact same topic (health insurance) but are asking about 3 different periods of time - before, during and after pregnancy. Consider moving each question to the appropriate section of the survey since the survey is defined by time periods. Additionally Q8 has a translation error with word "*tenia*" being the past tense of have, when this question is asking about current so the correct word is "*tiene*". The corrected statement should read: *¿Qué tipo de seguro médico **tiene** usted ahora?*

## Appendix 10: The Code of Recommendations Regarding Difficulty in Choosing Answers

**Name:** Nodes\\Difficulty in choosing answer\\Recommendation regarding difficulty in choosing answers

**<Internals\\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [2.08% Coverage]**

### **Reference 1 - 2.08% Coverage**

For Q6-8: consider adding an option that includes this type of health benefit.

**<Internals\\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail, BFA-MA-004(S.CORE)> - § 1 reference coded [1.69% Coverage]**

### **Reference 1 - 1.69% Coverage**

For Q11: consider adding answer choice option *Do not remember or Do not recall*.

**<Internals\\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [24.31% Coverage]**

### **Reference 1 - 24.31% Coverage**

The questions are presented in a manner that implies to some mothers they are answering No out of personal choice, which will perhaps be viewed in a biased manner by someone reading responses, rather than answering No because it is not time yet to consider these decisions. Consider reframing the wording of the questions and/or add answer choice options that specifically reflect the experiences of mothers in that very early stage (1day to 4 weeks) of the postpartum period.

Examples: rather than stating *“Are you or your spouse doing anything now to keep from getting pregnant”*, which implies choice and judgment use *“Are you and/or your spouse currently using a method of birth control?”*

## Appendix 11: The Code of Comments or Suggestions for Improving the Survey

**Name:** Nodes\Comments or suggestions for improving the survey

**<Internals\Andrea, 29, Hispanic, Spanish, High school, Mail, BFA-MA-005(S.CORE)> - § 1 reference coded [1.43% Coverage]**

### **Reference 1 - 1.43% Coverage**

Respondent made no additional comments or suggestions.

**<Internals\Bailey, 31, Black non-hispanic, English, Greater than high school, Income is 25001 - \$50000, Mail, BFA-MI-005(CORE)> - § 1 reference coded [14.09% Coverage]**

### **Reference 1 - 14.09% Coverage**

Respondent noted possibility of adding more questions related to how people become pregnant to include experiences of same-gender loving couples as well as others who experience various paths towards becoming pregnant.

**<Internals\Bella, 40, Black Non-hispanic, English, greater than high school, Income is \$50001 - \$85000, Mail BFA-MI-002(CORE)> - § 1 reference coded [7.27% Coverage]**

### **Reference 1 - 7.27% Coverage**

Respondent suggested survey should be made available in an electronic/online format as well as paper format to give mothers options to choose from as well as for convenience.

**<Internals\Bree, 22, Black non-hispanic, English, High school, less than \$25000, Mail, BFA-MI-003(CORE)> - § 1 reference coded [2.79% Coverage]**

### **Reference 1 - 2.79% Coverage**

Respondent did not share additional comments or suggestions.

**<Internals\Catalina, 22, Hispanic, Spanish, Less than high school, Income is less than \$25000, high school, mail. BFA-MA-001(S.CORE)> - § 1 reference coded [2.75% Coverage]**

### **Reference 1 - 2.75% Coverage**

Respondent made no further comments or suggestions.

**<Internals\Erica, 34, Hispanic, English, greater than high school, Income is over \$85000, BFA-MI-001(CORE)> - § 1 reference coded [20.26% Coverage]**

### **Reference 1 - 20.26% Coverage**

Respondent shared about her own past experience of the death of a child and suggested considering the emotional impact that answering questions about pregnancy after a baby has died will have on a grieving mother.

In particular she noted after Q33, a change should be made in how mothers taking the survey are instructed to continue. She noted that while the statement *We are very sorry for your loss* is noticeable, there is a lack of empathy for how a mother who has experienced the death of a baby will be impacted from this point forward with the survey. She noted some mothers may not want to continue after this question. And for mothers that do continue, even though the instruction box provides the direction to go to page 7, Q41 a mother may still skim through the questions that ask about the baby's sleep while trying to find Q41, and those questions may be difficult to read after one has been asked to check Yes for Q33.

Respondent suggested creating a blank space after Q33 and keeping Questions 34-40 within its own distinct section, so that when a mother turns to the page where she is to resume the survey the first question on that page is Q41.

**<Internals\\Esmeralda, 36, Hispanic, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-003(S.CORE)> - § 1 reference coded [5.60% Coverage]**

### **Reference 1 - 5.60% Coverage**

Respondent did not make additional comments or suggestions about the survey.

**<Internals\\Juanita, 28, Hispanic, Spanish, High school, Income is \$25001 - \$50000, mail. BFA-MA-004(S.CORE)> - § 1 reference coded [4.56% Coverage]**

### **Reference 1 - 4.56% Coverage**

Respondent suggested making survey length shorter, she noted taking into consideration mother's sleep deprivation and taking care of children as factors to not making surveys so long and repetitive with some of the questions.

**<Internals\\Luca, 36, Spanish, High school, Income is \$25001 - \$50000, Mail. BFA-MA-002(S.CORE)> - § 1 reference coded [3.62% Coverage]**

### **Reference 1 - 3.62% Coverage**

Respondent did not offer additional suggestions or comments.

**<Internals\\Meredith, 38, White non-hispanic, English, Greater than high school, \$85000, Mail, BFA-MI-004(CORE)> - § 1 reference coded [7.68% Coverage]**

### **Reference 1 - 7.68% Coverage**

Respondent noted having an electronic/online version of survey would be helpful, especially for questions that have if Yes go to Q\_\_ if No go to Q\_\_ because an electronic version would make this

choice for respondents.