# Evaluation Report Covering Disability

Matthew Brault
Sharon Stern
Housing and Household
Economic Statistics Division

David Raglin
Decennial Statistical Studies
Division

U S C E N S U S B U R E A U
*Helping You Make Informed Decisions*

Intentionally Blank

# TABLE OF CONTENTS

# LIST OF FIGURES AND TABLES

## Figures



## Tables

# EXECUTIVE SUMMARY

## Test Objective

- In January through March of 2006, the American Community Survey (ACS) conducted the first test of new and modified content since the ACS reached full implementation levels of data collection known as the 2006 ACS Content Test. The results of that testing will determine the content for the 2008 ACS.
- The interagency work group for the disability questions under the auspices of the Office of Management and Budget (OMB) concluded that the proposed disability question items, used in the test version of the content test, could be used separately to better identify specific portions of the population of people with disabilities. Furthermore, the set would be able to give an acceptable estimate of the population of persons with disabilities, as defined by a person's risk of participation limitation when he or she has a functional limitation or impairment.

## Methodology

- The content test compared two sets of disability questions. The control version utilized the current ACS question set. The test version used the set proposed by the work group, which included separate questions for hearing and seeing, and did not include long lead-ins and a work disability question. The content reinterview element of the test was essential to evaluate question response variance and also allowed exploration into extended, related measures of disability and functioning.

## Selection Criteria and Results

- **Is the simple response variance (SRV) for the test version equal to or less than the control?**
- The SRV for each disability question was lower or equal for the test version as compared with the control version thus meeting this criterion.
- **Are the item nonresponse rates for the test version less than or equal to that of the control?**
- This criterion was met, as the item nonresponse rates for the test version were less than that of the control for each disability item.
- The proposed changes result in better questions, in terms of reliability and response and their ability to better identify the population of persons with disabilities

# 1. BACKGROUND

## 1.1 Motivation for the 2006 ACS Content Test

In January through March of 2006, the American Community Survey (ACS) conducted the first test of new and modified content since the ACS reached full implementation levels of data collection. The results of that testing will determine the content for the 2008 ACS. The year 2008 marks the first year of a three-year aggregated data product that includes data from the same year as the 2010 decennial census (2008 - 2010). Similarly, 2008 is the midpoint year for the first five-year data product that includes data from 2010 (2006-2010). Given the significance of the year 2008, the ACS committed to a research program during 2006 that will result in final content determination in time for the 2008 ACS. This research is the 2006 ACS Content Test.

Through the Office of Management and Budget (OMB) Interagency Committee on the ACS, the Census Bureau included subject matter experts and key data users from other federal agencies in identifying questions for inclusion in the Content Test. In general the Content Test evaluated alternatives for questions which showed some indication of a problem, for example, high missing data rates, estimates which differed systematically from other sources of the same information, or high simple response variance as measured in the Census 2000 Content Reinterview survey. In addition, the Content Test also included testing of three new topics proposed by other federal agencies for inclusion in the ACS.

To meet the primary objective of the 2006 ACS Content Test, analysts evaluated changes to question wording, response categories, instructions, or examples relative to the current version of the questions. Additionally, the Content Test design reflected two secondary objectives. One of the secondary objectives addressed form design alternatives for the basic demographic section of the form. The second addressed the content of the questionnaire mailing package. Results indicated no interaction between either of the two secondary objectives and the first objective addressing changes made to questions. Thus, this report will only address testing specific to the first objective - testing of alternative questions, response categories, etc.. Specifically, this report discusses disability.

## 1.2 Previous Testing or Analysis for Disability

Concepts of disability have been included in decennial censuses as early as 1830, which asked whether persons were blind, deaf, or mute. While the term “disability” was first used in the 1880 census, its definition was not the same as ones used today. Early concepts of disability focused mainly around health conditions like sensory conditions, mental conditions, and deformities of limbs and not on the relationship between health, functioning, participating in societal activities, and fulfilling appropriate societal roles. After the 1910 census, items on health or disability were dropped from the census form, not to be seen again for many decades. Returning in 1970, disability content focused on limitations to working at a job.

The purposes of the 1970 census work disability questions were to identify persons with a health problem that limited the person’s ability to work and to provide a measure of the severity and

duration of the limitation. The testing of questions before the 1970 census found that the work disability question did not yield very positive results. For these tests, agreement rates were used to measure the reliability of questions – the agreement rate is the percentage of respondents who answered "Yes" to both an original and follow-up interview out of the total who answered "Yes" in either interview. The questions on work disability prior to 1970 showed relatively low agreement rates as compared with other socio-demographic measures in the survey. The data did, however, show that the characteristics of persons with a complete work disability were different from those who did not have a complete work disability, providing support for the question's inclusion. The two questions on limitation and prevention from working were thusly justified.

In response to concerns from local data users following the 1970 census and the passage of the Rehabilitation Act of 1973, the Committee on Disability and Health of the Federal Agency Council stated that there was a need to broaden the disability spectrum for the 1980 census. This expansion led to the testing of questions on limitations to using various forms of transportation and performing regular housework, schoolwork, and personal self-care. These questions were tested in the 1976 National Content Test (NCT).

The 1976 NCT used two panels of disability questions. The first panel had dichotomous "Yes" or "No" answers to questions asking about limitations to and prevention from performing certain activities; while the second panel listed the activities and asked respondents to answer "Prevents", "Limits, but does not prevent", or "No limitation". The 1976 NCT found that both panels produced low agreement rates. Despite the low reliability of the items tested in the 1976 NCT, the 1980 decennial census included work disability and limitations to using public transportation.

In preparation for the 1990 census, the Census Bureau again included disability items in a national content test. The 1986 NCT included questions on the disability status of children, work disability status, ability to drive a car, the need for assistance inside and outside the home, the prevalence of certain conditions, and the reason for limitation. While prevalence rates were comparable with estimates from the Survey of Income and Program Participation and rates of response were reasonable, disability questions continued to exhibit issues with reliability. For the 1990 census, the decision was made to ask the same work disability question that was asked in the 1970 and 1980 censuses; in addition, two questions addressing difficulty going outside alone and difficulty taking care of personal needs were also asked.

By reviewing the results of previous censuses and tests and consulting with other federal agencies, the Census Bureau identified several disability measures for the 1996 National Content Survey (NCS). Led, in part, by an interest in assessing the impact of the 1990 Americans with Disabilities Act (ADA), the 1996 NCS investigated questions for measuring disability in the following areas: child disability, limitations in schoolwork, vision impairment, hearing impairment, limitations in walking, limitations in cognitive functions, difficulty going outside for errands, use of personal assistance for self-care tasks, and work disability. Questions meant to capture these different aspects of disability were asked using multiple approaches in four different panels of the survey.

After reviewing the results of the 1996 NCS in terms of reliability and validity and presenting the information to a group of experts, including the Interagency Subcommittee on Disability Statistics, the Census Bureau found that still more questions remained and the choice was not clear. Hence, another federal interagency work group was convened in June 1997 by the Office of Management and Budget and charged with the development of a short set of disability questions. The interagency work group faced three tasks in a short period of time: (1) measuring disability using a definition in keeping with the ADA, (2) meeting the needs of various agencies requiring specific information, and (3) having a maximum of six questions. The work group agreed that three domains (sensory, physical, and mental/emotional/cognitive) sufficiently represented the broad classification of impairments and health conditions that generally resulted in disability. Additionally, the work group concluded that it could meet an array of other policy and programmatic requirements with three questions on difficulty with specific types of functional activities. Their questions intended to address people with limitations in performing the following: Activities of Daily Living, which generally include self-care type activities such as bathing or dressing; Instrumental Activities of Daily Living, which are activities often associated with independent living such as going out alone to shop or visit a doctor's office; and, finally, working at a job or business. The work group's consensus set of questions was put on the Census 2000 long form and on the ACS. (For further discussion of the research and analysis undertaken by this work group, see Adler et. al.)

In advance of the ACS Content Test, as part of the overall OMB interagency efforts, a working group representing several government agencies convened to consider disability content in the ACS. The work group established that in past practice agencies focused on functional limitations that might result in a person experiencing a limitation in participation in normal societal activities. The two primary purposes of the disability data are the provision of services (such as VA health benefits) and the provision of opportunities in housing, education, and other areas captured in the ACS. Using the Institute of Medicine (IOM) Model of Disability and the International Classification of Functioning (ICF) Model of Disability, the work group defined disability as the restriction in participation that results from a lack of fit between the individual's functional limitations and the characteristics of the physical and social environment. So while the disability is not seen as intrinsic to the individual, the way to capture it in a survey is to measure components that make up the process.

In the case of the ACS, the work group attempted to use the small space available to meet distinct goals. The group first identified four basic areas of functioning (vision, hearing, mobility, and cognitive functioning) that identified the largest component of the population of people with disabilities. These domains could be used individually or combined in order to assess the equalization of opportunity for people with disabilities. Second, the group identified two key elements that could be used for monitoring independent living and the need for services. Ability to take care of oneself, specifically the ability to bath and dress oneself, and the ability to move around the community without assistance were considered appropriate measures.

Once the outline of concepts was complete, the work group took on issues of wording the questions. They recognized that the extent of changes proposed would require cognitive testing and considered semantic issues carefully. Previous research had shown that disability items are sensitive to each and every word choice. Long lead-ins are often confusing and when questions

have multiple conditions respondents often do not know how to assess their own conditions or those of family or housemates. Therefore, the work group carefully weighed issues such as… Should the question include duration of the condition? Should the questions include one on assistive devices? Should respondents be instructed to answer when using the device or not using the device? In the end, for the cognitive testing, the committee settled on questions that were clear and short, to minimize confusion on intent.

The cognitive test included paper and pencil, telephone, and personal interview portions as all three modes are employed in ACS production. Both the National Center for Health Statistics (NCHS) and the Census Bureau participated in the cognitive testing. The final report on the cognitive testing by Kristin Miller and Therese DeMaio is attached. The following describes some of the results.

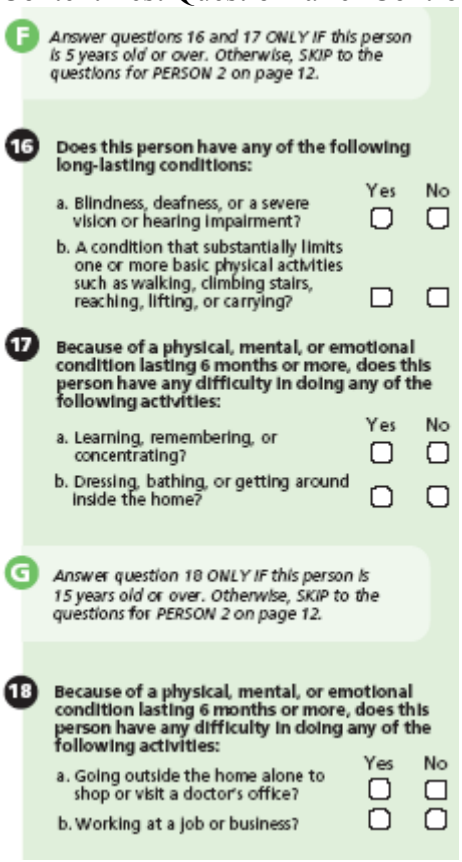
- The use "usually" was not an effective way to imply a long-lasting condition as opposed to a short-term condition. The severity of the condition seemed a more likely source of response errors – including trivial things rather than serious problems.
- The inclusion of assistive devices (glasses, hearing aids, crutches) in the question wording was beneficial in some cases but not in others.
- The content and order of factors measuring cognitive functioning (remembering, learning, making decisions, concentrating) impacted how respondents interpreted the question.
- The respondents did not uniformly understand questions about employment disability.
- The question on dressing and bathing picked up both physical and mental/emotional conditions.
- The respondents focused on the first phrase of the go-outside-home question "going outside the home" and consequently interpreted the question to include access to transportation. Beginning with the phrase "doing errands" focused the respondents on the types of tasks they want to accomplish.

After reviewing the full report, the committee recommended the test questions described in section 1.3 below.

### 1.3. Content Test Disability Items

For the topic of disability, the ACS currently asks six questions, reflecting six general types of disability. The resulting questions (see Figure 1) appear in the current ACS questionnaire and serve as the control version in the Content Test. Using the conventions of ACS production, this report labels the six questions in the Content Test as: sensory disability (question 16a), physical disability (question 16b), cognitive disability (question 17a), self-care disability (question 17b), go-outside-home disability (question 18a), and employment disability (question 18b).

Figure 1. Content Test Questionnaire- Control Version



F *Answer questions 16 and 17 ONLY IF this person is 5 years old or over. Otherwise, SKIP to the questions for PERSON 2 on page 12.*

**16** **Does this person have any of the following long-lasting conditions:**

| | Yes | No |
|---|---|---|
| a. Blindness, deafness, or a severe vision or hearing impairment? | ☐ | ☐ |
| b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying? | ☐ | ☐ |

**17** **Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:**

| | Yes | No |
|---|---|---|
| a. Learning, remembering, or concentrating? | ☐ | ☐ |
| b. Dressing, bathing, or getting around inside the home? | ☐ | ☐ |

G *Answer question 18 ONLY IF this person is 15 years old or over. Otherwise, SKIP to the questions for PERSON 2 on page 12.*

**18** **Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:**

| | Yes | No |
|---|---|---|
| a. Going outside the home alone to shop or visit a doctor's office? | ☐ | ☐ |
| b. Working at a job or business? | ☐ | ☐ |

The test version of the Content Test was developed in conjunction with a work group under the auspices of the OMB Interagency Committee for the ACS, which was led by NCHS. Due to the complexity of disability concepts, even the smallest change to questions can affect the concepts inferred by respondents. As a result, the work group intended to simplify and tailor the question set to more widely understood concepts. The following list summarizes the group's proposed changes:

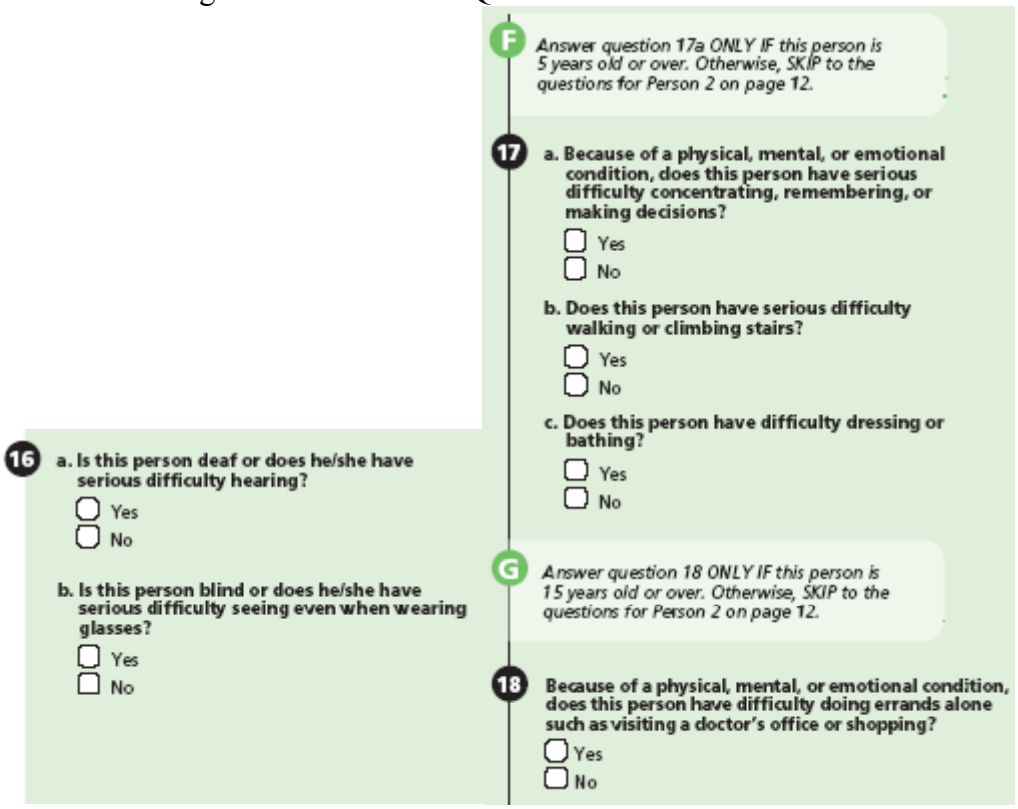
- The hearing and vision concepts are separate questions in the test version.
- The hearing and vision questions include children under 5 years old, since the skip instruction on the test version was after these items.
- The vision question includes the qualifier "even when wearing glasses."
- The hearing, vision, and mobility questions are simpler, omitting terms/phrases of "long-lasting condition" and "impairment."
- All the questions are more direct, excluding long lead-ins followed by multiple sub-parts.
- The mobility question includes only walking and climbing stairs, the activities that account for the majority of mobility limitations (focusing on lower body, and primarily ambulation rather than upper and lower body functions).
- For clarity, the test version includes the phrase "Does this person have [serious] difficulty…" before each function or activity.
- The test version does not include references to duration of limitation but does includes the word "serious" in the hearing, vision, mobility and cognitive/mental functioning

questions to focus attention on longer-term disability and increase reliability by reducing the misreporting of temporary or less severe conditions.

- The test version has no work disability item.
- The question order on the test version accommodates the skip pattern and focuses on more serious disability.

The questions for the test version, seen in Figure 2, are labeled hearing disability (question 16a), vision disability (question 16b), cognitive disability (question 17a), mobility disability (question 17b), self-care disability (question 17c), and independent living disability (question 18). While some of these questions are labeled similarly to the control version, the work group expected the test version to capture a different set of people with disabilities.

Figure 2. Content Test Questionnaire- Test Version




The splitting up the sensory disability question into a hearing disability question and a vision disability questions is not solely intended to allow for independent estimates of the items, a task currently unavailable with the single combined question. The work group also expected better reporting for each question in the form of lower response variance and higher positive response. While it has been implied that the two questions are merely a separation of the original sensory disability question, the recombining the two questions in the test version does not produce a measure equivalent to the sensory disability question on the control version.

The cognitive disability in the test version was intended to capture older people with limitations to "concentrating, remembering, or making decisions." The concern was that people at a stage in

life where they are not learning new things will not answer "yes" for questions specifically mentioning limitations to learning.

Despite the overlapping topics, "walking and climbing stairs," of the physical disability question in the control version and the mobility disability question in the test version, the two measures are not equivalent. The test version, by omitting "reaching, lifting, and carrying," focuses on lower body limitations associated with ambulation, whereas the control version refers to both upper and lower body limitations. It is expected that prevalence rates for the mobility question on the test version would be different than rates for the physical disability question in the control version, as the test version is tailored to a more specific group. Consequently, a difference in prevalence rates is not indicative of a better measure. The key statistic for comparison is the response variance.

The test version of the self-care disability focuses on dressing and bathing limitations, which are concrete examples of self-care activities and reflect the largest portion of people that the work group identified as needing assistance to living independently and as potential movers to care facilities. The omission of "getting around inside the home" may impact prevalence, but the intent was to improve reliability.

# 2. RESEARCH QUESTIONS AND SELECTION CRITERIA

## 2.1 Research Questions

Since the ACS Content Test purpose was to determine recommendations for ACS 2008 content, analysts developed a set of criteria to help guide the decision on whether the proposed set of questions should replace the current set. These criteria are based on the following research questions:

1. *Do the proposed changes improve the overall reliability in identifying disability status?*
2. *What impact do the proposed changes have on item nonresponse?*
3. *What specific cues lead to a "Yes" response for the cognitive disability question? Do these cues differ on account to the consistency of responses in the original interview and the follow-up re-interview (CFU)?*
4. *Using the more detailed set of questions in the CFU, how do people responding "Yes" for any or all disability questions compare in terms of degree of difficulty and type of conditions?*
5. *What is the reliability of the work disability in the control version?*
6. *How reliable is the test version of the hearing and vision questions for persons 0 to 4 years old?*

These research questions provide a structure for analysis and set out a basis for a clearly defined set of criteria from which the overall decision to accept or reject the proposed set of questions is based.

## 2.2 Selection Criteria

The set of criteria, called the selection criteria, addresses the first and third research questions. The answers to the other research questions provide additional insight into the type and severity of the conditions or limitations that people have reported, however the results do not hold the same weight in deciding whether to accept the proposed questions. The selection criteria are:

- Is the simple response variance (SRV) for the test version equal to or less than the control?
  - *Is the SRV for "with a disability/no disability" in the test version equal to or less than the control version?*
  - *Is the SRV for the individual disability questions in the test version equal to or less than similar items in the control version?*
- Are the item nonresponse rates for the disability items in the test version less than or equal to that of the similar disability items on the control version?

# 3. METHODOLOGY

## 3.1 Data Collection Methods

### *3.1.1 The 2006 ACS Content Test data collection*

The 2006 ACS Content Test consisted of a national sample of approximately 62,900 residential addresses in the contiguous United States. (The sample universe did not include Puerto Rico, Alaska and Hawaii). To meet the primary test objective of evaluating question wording changes, approximately half of the sample addresses were assigned to a test group (31,450) and the other half to a control group (31,450). For the topics already covered in the ACS, the test group included the proposed alternative versions of the questions, and the control group included the current version of the questions as asked on the ACS. Both the test and control questionnaires included three new topics not currently on the ACS. Both test and control included the three new topics to keep context and questionnaire length consistent between the two versions.

The ACS Content Test used a similar data collection methodology as the current ACS, though cost and time constraints resulted in some deviations. Initially, the ACS collects data by mail from sampled households, following a mailing strategy geared at maximizing mail response (i.e., a pre-notice letter, an initial questionnaire packet, a reminder postcard, and a replacement questionnaire packet). The Content Test implemented the same methodology, mailing each piece on the same dates as the corresponding panel in the ACS. However, the Content Test did not provide a toll-free number on the printed questionnaires for respondents to call if they had questions, as the ACS does. The decision to exclude this service in the Content Test primarily reflects resource issues in developing the materials needed to train and implement the operation for a one-time test. However, excluding this telephone assistance allows us to collect data that reflects the respondent's interpretation and response without the aid of a trained Census Bureau interviewer.

The ACS follows-up with mail nonrespondents first by Computer Assisted Telephone Interviewing (CATI) if a phone number is available, or by Computer Assisted Personal-visit Interviewing (CAPI) if the unit cannot be reached by mail or phone. For cost purposes, the ACS subsamples the mail and telephone nonrespondents for CAPI interviewing. In comparison, the Content Test went directly to CAPI data collection for mail nonrespondents, dropping the CATI data collection phase in an effort to address competing time and resource constraints for the field data collection staff. While skipping the CATI phase changes the data collection methods as compared to the ACS, eliminating CATI allowed us to meet the field data collection constraints while also maintaining the entire mail nonrespondent universe for possible CAPI follow-up. Using CATI alone for follow-up would have excluded households for whom we do not have a phone number.

The ACS also implements an edit procedure on returned mail questionnaires, identifying units for follow-up who provided incomplete information on the form, or who reported more than five people living at the address. (The ACS questionnaire only has space to collect data for five people.) This is called the Failed Edit Follow Up operation (FEFU). The ACS calls all

households identified as part of the FEFU edit to collect the remaining information via a CATI operation. The Content Test excluded this follow-up operation in favor of a content reinterview, called the Content Follow-Up (CFU). The CFU also contacts households via CATI but the CFU serves as a method to measure response error, providing critical evaluative information. The CFU operation included all households who responded by mail or CAPI and for whom we had a phone number. More information about the CFU operation follows below.

The Content Test mailed questionnaires to sampled households around December 28, 2005, coinciding with the mailing for the ACS January 2006 panel. The Content Test used an English-only mail form but the automated instruments (both CAPI and CFU) included both English and Spanish translations. Beginning February 2006, a sample of households that did not respond by mail was visited by Census Bureau field representatives in attempt to collect the data. The CAPI operations ended March 2, 2006.

### *3.1.2 Content Follow-Up data collection*

The CFU reinterview, conducted by the Census Bureau's three telephone centers, provided a method for measuring response error. About two weeks after receiving the returned questionnaire or completed CAPI interview, the responding unit entered the CFU operation. Telephone staff completed the CFU interviews between January 17 and March 17, 2006. At the first contact with a household, interviewers asked to speak with the original respondent. If that person was not available, interviewers scheduled a callback at a time when the household member was expected to be home. If at the second contact we could not reach the original respondent, interviewers completed the interview with another adult household member.

The CFU reinterview did not replicate the full ACS interview. Rather, the CFU used the roster and basic demographic information from the original interview and only asked questions specific to the analytical needs of the Content Test. Reinterview questions were of two general formats: the same question as asked in the original interview (in some cases, modified slightly for a CATI interview), or a different set of questions providing more detail than the question(s) asked in the original interview for the same topic. For topics in which the CFU asked the same question as the original interview, the CFU asked the test or control version of the question based on the original treatment. For these cases, the goal was to measure the reliability of the answers – how often we obtained the same answer in the CFU as we did in the original mail or CAPI data collection. For topics using a different question or set of questions than the original interview, we asked the same detailed series of questions regardless of the original treatment condition. Generally, these questions were more numerous than what we could ask in the ACS. In some cases the questions came from another existing survey, for example, for labor force, we asked the labor force questions from the Current Population Survey questions. In other cases the CFU asked additional probing questions based on prior testing results, such as for health insurance. For these topics, the goal was to measure how close the original answers were to the more detailed CFU answers.

## 3.2 Sample Design

The sample design for the ACS Content Test consisted of a multi-stage design, with the first stage following the Census 2000 Supplementary Survey (C2SS) design for the selection of Primary Selection Units (PSUs) defined as counties or groups of counties. The first stage selection of PSUs resulted in 413 PSUs or approximately 900 counties being selected.

Within sampled PSUs, households were stratified into high and low response strata based on tract-level mail response rates to the Census 2000 long form and a stratified systematic sample of households was selected. The strata were defined such that the high response stratum contained 75 percent of the housing units that reside in tracts with the highest mail response rate. The balance of the tracts was assigned to the low response stratum. To achieve similar expected number of mail returns for the high and low response strata, 55 percent of the sample was allocated to the low response strata and 45 percent to the high response strata.

A two-stage sampling technique was used to help contain field costs for CAPI data collection. The initial sample of PSUs was sorted by percentage of foreign-born population since the majority of that target population responds via CAPI. At least one item undergoing testing in the content test required an adequate sample of this population. The 20 PSUs with the highest percentage of foreign-born population were included with certainty and the remaining PSUs were sampled at a rate of 1 in 3. For the second stage, mail nonresponding households were sampled at a rate of 1 in 2 within the top 20 PSUs and at a sampling rate of 2 in 3 within the remaining PSUs. The final design designated 151 PSUs be included in the CAPI workload.

In the majority of PSUs, we assigned cases to both the control and test groups. To maintain field data collection costs and efficiencies, PSUs with an expected CAPI workload of less than 10 sampled addresses had all of their work assigned to only one treatment (either control or test). The PSUs were allocated to the two groups such that the aggregated PSU characteristics between the two groups are similar for employment, foreign born, high school graduates, disabled, poverty status, tenure, and Hispanic origin. For more information on the 2006 ACS Content Test sample design, see Asiala (2006).

There was no sampling for CFU. A CFU interview was attempted for all responding households to the Content Test for which we had a phone number.

## 3.3 Methodology Specific to the Selection Criteria

The six disability items were coded such that people who answered “yes” and not “no” were considered to be with that disability. Likewise, people who answered “no” and not “yes” were considered to be without that disability. Persons who either left both “yes” and “no” blank or checked both boxes were considered a nonresponse.

Because the interagency work group proposed questions that change some of the conceptual framework, the selection criteria cannot and do not focus on the distribution of disability by type or combined when comparing the control with the test questions. For example, the work group

expected that the new mobility question in the test set (Does this person have serious difficulty walking or climbing stairs?) would have lower prevalence than the physical disability question on the control (Does this person have any of the following long-lasting conditions… A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?) While both of these include the activities of walking and climbing stairs, the test question is really focused on lower body function and specific ambulation. The control question is much more broad and may get a very different type of response. As such, the research questions involving the selection criteria are really estimates of reliability as measured by a re-ask of the same item in the CFU. Therefore, the primary element of analysis was asking the same disability questions the respondents answered initially – control people were re-asked control items and test people were re-asked test items.

The CFU also included some extended measures of functioning for purposes of explaining what respondents might consider a "serious difficulty seeing even when wearing glasses." Appendix A includes the text of these disability items from the CFU. Not everyone was asked all the follow-up items. The purpose was to learn more about who was saying "yes" to the ACS items and only for some questions was it relevant to also ask the extended measures of people who said "no" to the test or control items.

# 4. LIMITATIONS

## 4.1 General Content Test and Content Follow Up Limitations

As noted in section 3.1, Data Collection Methods, the Content Test maintained the same general mail data collection methodology as the ACS, but differed in the mail nonresponse follow-up operations. In general the deviations did not impact the validity of the results, and in many cases increased the effectiveness of the testing. However, some aspects of the Content Test implementation should be considered in evaluating the data.

- As noted, the Content Test did not include CATI data collection in order to meet field data collection constraints. While the design of the Content Test allowed all sampled housing units an opportunity to participate even without CATI, questions administered differently over the phone did not get the benefit of a full CATI operation (though some of the CAPI interviews actually do occur by phone). However, since only ten percent of ACS data is collected by CATI and CATI interviewers are trained to help respondents understand question intent and response categories, overall ACS data quality should not suffer when questions are implemented using CATI.

- Though the test design required that field interviewers work only control or only test cases, interviewers in both conditions worked regular ACS production interviews at the same time they completed the Content Test cases. By design the control instrument very closely replicated the ACS production instrument, only differing in the addition of the three newly proposed topics. As a result, interviewers in the test condition had to learn and use two very different instruments, while control interviewers used basically the same instrument between their Content Test cases and ACS production. Thus, test interviewers experienced more challenges in completing their overall caseload. Interviewer debriefing suggested that test interviewers had some difficulty dealing with the two very different instruments simultaneously which may have some impact on the administration of the test version.

- On the first day of CFU interviewing, we discovered a usability problem with the CFU instrument. Left unaddressed, the usability problem could have potentially impacted comparisons between the Content Test and CFU responses when looking specifically at gross difference rate or simple response variance calculations. However, we immediately implemented two steps to mitigate any data problems -- a special instruction sheet to remind interviewers about how to avoid the potential problem and a procedure to report any problems to headquarters for repair. Interviewers followed the instructions and reported 90 cases to us. Post-collection processing corrected all reported errors, though it is possible that some cases went unreported.

- The CFU universe did not include non-telephone households and vacant housing units. This only affects those question topics included in the CFU study that are related to the non-telephone household or vacant universes.

## 4.2 Limitations Specific to Disability

The collection modes used in the 2006 ACS Content Test contain inherent barriers to collecting disability data. As a result, mode bias exists in all the estimates. The Content Test initial survey used mail forms and CAPI operations to collect the data. The mail form can be difficult for people with disabilities to fill out.

In order to fill out the mail form, one needs to be able to see the question, comprehend and answer the question, and use a writing instrument to physically place the response on the form. Some examples of this difficulty include: people who are blind or have difficulty seeing may have trouble reading the question; people with severe cognitive disabilities may not be able to comprehend the question, thus requiring a proxy response; and people with difficulty grasping or moving their arms may not be able to write the answer down.

CAPI operations tend to have the smallest barrier to collecting disability data because the field representative can act as an aide in helping a person with a disability to read, write, or understand the question. However, CAPI operations are relatively expensive and so there is a sub-sampling that occurs – not all persons who were unable to fill out their forms are included in the sample. Regardless, mode bias is present in the disability items, however not in a measurable way.

The Content Test original interview did not use CATI operations to collect data; the CFU reinterview only used CATI operations to collect data. CATI has inherent barriers as well. Because of the nature of a hearing disability, collecting data through CATI is difficult without the assistance of another household member. People with cognitive disabilities or speech disabilities can also have difficulty answering questions over the telephone. Since the CFU used just this one mode of operation, the data that were collected contain mode bias.

# 5. RESULTS

## 5.1 Response to the Content Test and Content Follow-Up

Control and test treatments groups obtained equivalent response rates overall, and for each mode of collection. Similarly, response to the Content Test is comparable to response for the production ACS.

The table below gives the weighted response rates for each data collection operation and a test of differences between the control and test groups. The overall response rate reflects the final response to the initial data collection (mail and CAPI only). There were no significant differences between response rates for the control and test groups. Note that the denominator for each calculation included only eligible cases for each mode.

**Table 1. Content Test Response Rates, Control vs. Test**

| Response Rate | Total (%) | Control (%) | Test (%) | Difference (%) | Margin of Error (%) | Significant |
|---|---|---|---|---|---|---|
| Overall response rate | 95.7 | 95.8 | 95.5 | -0.3 | ± 0.9 | No |
| Mail response rate | 51.3 | 51.5 | 51.2 | -0.3 | ± 2.2 | No |
| CAPI response rate | 92.4 | 92.6 | 92.1 | -0.4 | ± 1.7 | No |
| CFU response rate | 76.2 | 75.9 | 76.4 | 0.5 | ± 1.6 | No |

## 5.2 Disability Prevalence Rates

While not part of the selection criteria, the prevalence rates for the disability items provide information about the population of persons with disabilities covered under the different questions. The differences in the questionnaires make prevalence rates from the control version incomparable to those from the test version. Table 2 show the prevalence rates for the disability items for both versions of the Content Test.

About 3.8 percent of the control group responded “yes” to having a sensory disability. In the test group, 3.9 percent and 2.5 percent responded to having a hearing disability and a vision disability, respectively. Physical disability in the control version identified 9.4 percent as having upper and lower body limitations. The test version’s mobility disability question identified 6.9 percent with a lower body limitation. Cognitive disability was 4.9 percent in the control version, which included the activity “learning,” whereas the test version, which listed the activity “making decisions,” yielded a prevalence rate of 4.9 percent.

The prevalence of self-care disability in the control version was 3.2 percent. In the test version of self-care disability, which omitted “getting around inside the home”, the prevalence rate was 2.3 percent. Independent living disability was 5.1 percent in the control version and 5.1 percent in

the test version. Employment disability had a prevalence rate of 9.6 percent. The prevalence rate for people with at least one disability was 14.1 percent for the control group and 13.2 percent for the test group.

**Table 2. Disability Prevalence Rates, Control and Test**

| Control Version | | Test Version | |
|---|---|---|---|
| **Disability Item** | **Prevalence Rate (%)** | **Disability Item** | **Prevalence Rate (%)** |
| Sensory disability | 3.8 | Hearing disability | 3.9 |
| | | Vision disability | 2.5 |
| Physical disability | 9.4 | Mobility disability | 6.9 |
| Cognitive disability | 4.9 | Cognitive disability | 4.9 |
| Self-care disability | 3.2 | Self-care disability | 2.3 |
| Independent living disability | 5.1 | Independent living disability | 5.1 |
| Employment disability | 9.6 | | |
| With a disability * | 14.1 | With a disability | 13.2 |

* The recoded measure of "With a disability/No disability" for the control version does not include employment disability in its definition for purposes of comparability with the test version.

## 5.3 Selection Criterion 1: Reliability of Disability Items

*Is the simple response variance (SRV) for the test version equal to or less than the control?*

i. *Is the SRV for "with a disability/no disability" in the test version equal to or less than the control version?*
ii. *Is the SRV for the individual disability questions in the test version equal to or less than similar items in the control version?*

Appendix 5a includes two measures that can be used to determine the reliability of a question – simple response variance (SRV) and net difference rate (NDR). Each of these measures analyzes the number of respondents who were inconsistent in their responses from the original survey to the CFU reinterview. While both measures provide useful information, SRV is the measure used in determining whether the questions meet this selection criterion. Table 3 shows that each item in the test version of the questionnaire has a lower or equal SRV in comparison to its most similarly defined counterpart in the control version, thus implying better reliability and meeting the first selection criterion.

Specifically, the hearing question and the vision question in the test version had SRVs of 2.4 and 1.9 respectively, each lower than the SRV of 3.3 for the combined hearing and vision question in the control version. The SRV for mobility disability was 0.9 (±0.5) percentage points lower for the test version than for control version. The self-care disability SRV was also lower for the test version. On this question, the test version had an SRV of 1.3 and the control version had an SRV of 1.9. Cognitive disability and independent living disability did not have statistically different

SRVs between the two versions. Likewise the reliability of the overall recode was not statistically different between the two versions.

**Table 3. Simple Response Variance Comparison, Control vs. Test**

| Questionnaire Item | Control SRV | Test SRV | Diff | Margin of Error | Significant |
|---|---|---|---|---|---|
| Hearing disability† | 3.3 | 2.4 | -0.9 | ±0.3 | Yes |
| Vision disability† | | 1.9 | -1.4 | ±0.3 | Yes |
| Mobility disability | 4.6 | 3.7 | -0.9 | ±0.5 | Yes |
| Cognitive disability | 3.1 | 2.9 | -0.2 | ±0.3 | No |
| Self-care disability | 1.9 | 1.3 | -0.6 | ±0.3 | Yes |
| Independent living disability | 2.8 | 2.7 | -0.1 | ±0.3 | No |
| With a disability | 6.8 | 6.4 | -0.4 | ±0.6 | No |

† The hearing question and seeing question from the test version were each tested against the combined seeing and hearing question from the control version.

The NDR was not the statistic used for this selection criterion; however, looking at the net difference rates (NDR) for the disability items, the test version exhibited a lower or equal NDR for each of the items compared with the control version. The NDR for the hearing disability and seeing disability questions in the test version were 0.8 and 0.5, respectively, while the sensory disability question in the control version had a NDR of 2.5. The cognitive disability question had a NDR of 0.9 in the test version and 1.7 in the control version. The NDR for combined disability recode was lower in the test versions than in the control, which had NDRs of 2.3 and 3.8, respectively. The NDRs for the mobility disability, self-care disability, and independent living disability questions were not statistically different between the test and control versions.

## 5.4 Selection Criterion 2: Nonresponse of Disability Items

*Are the item nonresponse rates for the disability items in the test version less than or equal to that of the similar disability items on the control version?*

As seen in Table 4, the nonresponse rates for each disability item and for the combined set were lower for the test version than for the control version. This evidence meets the criteria of evaluation in support of the proposed set of questions.

For the test version, hearing disability and vision disability had nonresponse rates of 3.0 percent and 3.2 percent, respectively. The two questions had a combined nonresponse rate of 3.2 percent, which was statistically different from the nonresponse rate of 5.1 percent for the sensory disability question in the control version.

For mobility disability, the nonresponse rate for the test version was 4.4 percent, lower than 5.7 percent for the physical disability question in the control version. The test version for cognitive disability had a nonresponse rate of 4.0 percent, lower than the 4.8 percent nonresponse rate for

the control version. Self-care disability and going outside disability had nonresponse rates of 4.3 percent and 4.3 percent in the test version and 5.4 percent and 5.4 percent in the control version. The nonresponse rate for working disability was 6.7 percent, the highest nonresponse rate of any disability item.

**Table 4. Disability Item Nonresponse Rates, Control vs. Test**

| Questionnaire Item | Ages | Control | Test | Diff | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 5+ | ---- | 3.0% | ---- | ---- | ---- |
| Vision disability | 5+ | ---- | 3.2% | ---- | ---- | ---- |
| Sensory disability * | 5+ | 5.1% | 3.2% | -1.9% | 0.6% | Yes |
| Mobility disability | 5+ | 5.7% | 4.4% | -1.4% | 0.6% | Yes |
| Cognitive disability | 5+ | 4.8% | 4.0% | -0.8% | 0.6% | Yes |
| Self-care disability | 5+ | 5.4% | 4.3% | -1.0% | 0.6% | Yes |
| Independent Living disability | 15+ | 5.4% | 4.3% | -1.1% | 0.6% | Yes |
| Employment disability | 15+ | 6.7% | ---- | ---- | ---- | ---- |
| All disabilities ** | 5+ | 3.9% | 2.7% | -1.2% | 0.5% | Yes |
| Any disability *** | 5+ | 6.5% | 5.0% | -1.5% | 0.6% | Yes |

* For the test version, the hearing and vision questions were recoded to create a combined measure similar to the control question. Responses were valid if the respondent answered yes for either question or no on both questions. Otherwise, the recode treated the response as missing.
** All disability items were missing.
*** At least one disability item was missing.

**Table 5. Any Disability and All Disabilities Nonresponse.**

| | Responded to All | Responded to Some | Responded to None |
|---|---|---|---|
| Hearing/Vision | X | X | |
| Mobility | X | | |
| Cognitive | X | X | |
| Self-care | X | | |
| Independent Living | X | X | |

Nonresponse rates were also calculated for "any disability" and "all disabilities." As seen in Table 5, respondents fall into one of three possible categories – those who responded to all the disability questions, those who responded only to some of the questions, and those who answered none of the disability questions. Nonresponse for any disability is defined as the rate of respondents who fall under the second and third columns, meaning that they failed to answer all the questions. Nonresponse for all disabilities is defined as the rate of persons who fall under the third column, meaning they answered none of the disability questions. The nonresponse rate for any disability was 5.0 percent for the test version and 6.5 percent for the control version. The nonresponse rate for all disabilities was also lower for the test version (2.7 percent) than the control version (3.9 percent).

## 5.5 Research Question: Detailed Hearing and Vision Disabilities

The CFU reinterview provided more detailed information regarding the nature of a person's vision or hearing disabilities. Respondents were asked whether they used a hearing aid and to gauge the level of difficulty hearing with and without the aid (if they used one). Likewise, they were also asked about wearing glasses or contacts and to gauge seeing difficulty both with and without them. These questions were independent to their answers to the hearing and vision disability questions in the test and control.

To describe the results from these extended measures, two approaches follow. First, all respondents are examined on the extended measures. Second, test treatment respondents who said "yes" to particular disability items are further examined on their CFU extended measures, regardless of whether the respondent answered the same in the CFU.

**Table 6. Percentage Distribution of Responses to CFU Detailed Hearing Questions**

| | All People | | Test Treatment Yes to Hearing Item in Original Interview | | |
|---|---|---|---|---|---|
| | Control | Test | Total | CFU: Yes | CFU: No |
| Does the person use a hearing aid? | | | | | |
| Yes | 2.2% | 2.4% | 39.9% | 49.2% | 15.4% |
| No | 97.8% | 97.6% | 60.1% | 50.8% | 84.6% |
| Difficulty hearing without hearing aid (if person wears one)? | | | | | |
| Not difficult | 6.7% | 3.2% | 1.4% | 1.3% | 2.9% |
| A little difficult | 13.0% | 14.9% | 8.4% | 5.9% | 28.9% |
| Somewhat difficult | 25.7% | 26.3% | 21.8% | 22.0% | 19.8% |
| Very difficult | 37.9% | 37.8% | 43.5% | 46.4% | 19.8% |
| Can't hear / deaf | 16.8% | 17.9% | 24.9% | 24.4% | 28.7% |
| Difficulty hearing with hearing aid (if person wears one)? | | | | | |
| Not difficult | 26.2% | 36.2% | 29.2% | 25.4% | 61.3% |
| A little difficult | 36.5% | 26.1% | 28.8% | 29.6% | 22.0% |
| Somewhat difficult | 19.2% | 23.6% | 25.6% | 27.4% | 10.8% |
| Very difficult | 15.3% | 11.8% | 13.1% | 14.0% | 5.9% |
| Can't hear / deaf | 2.8% | 2.3% | 3.3% | 3.7% | 0.0% |
| Difficulty hearing (if person does not wear a hearing aid)? | | | | | |
| Not difficult | 82.7% | 83.3% | 22.8% | 6.3% | 47.7% |
| A little difficult | 10.1% | 9.9% | 22.3% | 21.3% | 24.0% |
| Somewhat difficult | 5.8% | 5.2% | 26.3% | 32.4% | 17.1% |
| Very difficult | 1.2% | 1.5% | 25.5% | 35.0% | 11.2% |
| Can't hear / deaf | 0.2% | 0.2% | 3.1% | 5.1% | 0.0% |

Before examining the detailed hearing and vision responses, it is important to establish that the control and test groups are alike in their understanding of the detailed questions. As seen in Table 6, the distribution from the detailed hearing questions for people who received the control version of the survey was similar to the distribution for those who received the test version. Table 7 shows that the same is true for the distribution of answers to the detailed seeing questions for the control and test groups.

Among people who responded in the test version that they had serious difficulty hearing, 39.9 percent indicated that they used a hearing aid. Of that group who used a hearing aid, 68.4 percent responded "very difficult" or "can't hear / deaf" when not using the hearing aid and 58.0 percent responded "not difficult" or "a little difficult" when using the hearing aid. This indicates that respondents are typically reporting their difficulty hearing while not wearing an assistive device.

For those who responded that they had a hearing difficulty but did not use a hearing aid, when asked to gauge how much difficulty the had hearing, their answers were more or less distributed evenly between "not difficult" and "very difficult". This can be attributed to the time difference and mode effects between the initial survey and the CFU. Looking at those who also answered "yes" to the CFU reinterview question, 72.5 percent reported "somewhat difficult" or more severe whereas 28.3 percent of those who answered "No" in the reinterview reported the same levels of difficulty.

**Table 7. Percentage Distribution of Responses to CFU Detailed Vision Questions**

| | All People | | Test Treatment Yes to Vision Item in Original Interview | | |
|---|---|---|---|---|---|
| | **Control** | **Test** | **CFU: Any** | **CFU: Yes** | **CFU: No** |
| Does the person use glasses or contacts? | | | | | |
| Yes | 56.2% | 57.7% | 78.1% | 73.6% | 82.8% |
| No | 43.8% | 42.3% | 21.9% | 26.4% | 17.2% |
| Difficult seeing without glasses (if usually worn) | | | | | |
| Not Difficult | 13.0% | 13.9% | 6.6% | 0.1% | 12.5% |
| A little difficult | 23.9% | 24.7% | 13.4% | 7.4% | 18.8% |
| Somewhat difficult | 26.5% | 26.9% | 16.7% | 11.8% | 21.3% |
| Very difficult | 27.1% | 25.6% | 28.1% | 33.1% | 23.5% |
| Can't see / blind | 9.6% | 8.9% | 35.2% | 47.6% | 23.8% |
| Difficult seeing with glasses (if usually worn) | | | | | |
| Not Difficult | 86.5% | 86.2% | 38.7% | 17.8% | 60.1% |
| A little difficult | 8.0% | 7.9% | 22.1% | 27.0% | 17.1% |
| Somewhat difficult | 3.1% | 3.9% | 17.2% | 20.6% | 13.8% |
| Very difficult | 1.7% | 1.5% | 12.1% | 15.8% | 8.3% |
| Can't see / blind | 0.7% | 0.6% | 9.9% | 18.9% | 0.7% |
| Difficult seeing (if person does not wears glasses or contacts) | | | | | |
| Not Difficult | 87.3% | 88.2% | 30.1% | 17.8% | 49.5% |
| A little difficult | 7.9% | 7.2% | 10.1% | 1.5% | 23.7% |
| Somewhat difficult | 2.9% | 2.8% | 9.2% | 1.7% | 20.8% |
| Very difficult | 1.4% | 1.0% | 10.9% | 14.0% | 6.1% |
| Can't see / blind | 0.6% | 0.9% | 39.7% | 64.9% | 0% |

For the detailed vision questions, of those who reported a vision disability in the initial survey 78.1 percent wore glasses or contacts. Without the use of glasses or contacts, 63.3 percent reported "very difficult" or "can't see / blind" when asked to gauge their level of difficulty seeing. With glasses or contacts, 22.0 percent reported "very difficult" or "can't see / blind."

For people in the test group who do not wear glasses or contacts and reported a vision disability, 50.6 percent reported "very difficult" or "can't see / blind" for seeing difficulty. The distribution of responses for these questions resulted in clustering at highest and lowest ratings of difficulty. The cluster of people who reported "not difficult" also reported no seeing disability in the follow-up question on the CFU whereas the cluster of people who reported "can't see / blind" answered "yes" to having a seeing disability on both the initial and follow-up interviews.

Aside from the noise generated by mode effects and the time difference between the initial survey and the CFU, some of the responses of "not difficult" for seeing words/letters or seeing a friend across the street indicate reporting of near- and far-sightedness. People with myopia may report difficulty seeing a friend across the street but no difficulty seeing words/letters and people with hyperopia may report the opposite. It appears that the concept of seeing disability is not excluding these groups.

**Table 8. Percentage Distribution of Responses to CFU Detailed Mobility Questions**

| | All People | | Test Treatment: Yes to Mobility Item in Original Interview | | |
|---|---|---|---|---|---|
| | **Control** | **Test** | **CFU: Any** | **CFU: Yes** | **CFU: No** |
| Does the person use an ambulatory aid? | | | | | |
| Yes | 4.6% | 4.3% | 43.9% | 52.4% | 12.9% |
| No | 95.4% | 95.7% | 56.1% | 47.6% | 87.1% |
| Difficult walking or climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | |
| Not Difficult | 3.8% | 8.1% | 1.8% | 1.5% | 6.3% |
| A little difficult | 4.6% | 6.1% | 2.9% | 2.7% | 5.0% |
| Somewhat difficult | 10.5% | 10.0% | 7.3% | 5.3% | 35.8% |
| Very difficult | 25.4% | 23.5% | 26.5% | 26.4% | 27.8% |
| Can't do at all | 55.7% | 52.3% | 61.5% | 64.0% | 25.1% |
| Difficult walking or climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | |
| Not Difficult | 4.2% | 5.6% | 4.6% | 3.9% | 14.9% |
| A little difficult | 9.5% | 11.6% | 7.3% | 7.0% | 11.6% |
| Somewhat difficult | 15.0% | 14.1% | 13.9% | 12.0% | 43.7% |
| Very difficult | 28.2% | 24.7% | 26.5% | 28.0% | 2.6% |
| Can't do at all | 43.1% | 43.9% | 47.8% | 49.1% | 27.1% |
| Difficult walking or climbing stairs (if the person does not use an ambulatory aid) | | | | | |
| Not Difficult | 88.0% | 87.9% | 14.3% | 2.3% | 38.1% |
| A little difficult | 5.1% | 4.9% | 16.2% | 11.3% | 25.9% |
| Somewhat difficult | 3.7% | 3.7% | 20.6% | 21.4% | 19.2% |
| Very difficult | 2.1% | 2.4% | 32.5% | 43.1% | 11.7% |
| Can't do at all | 1.2% | 1.2% | 16.3% | 22.0% | 5.1% |
| How long have you had these difficulties? | | | | | |
| Less than six months | 8.3% | 7.7% | 2.5% | 2.2% | 4.1% |
| Six months-one year | 17.9% | 16.4% | 9.7% | 8.5% | 16.5% |
| Longer than one year | 73.8% | 75.9% | 87.8% | 89.3% | 79.3% |
| Do you expect these difficulties to continue six months or more | | | | | |
| Yes | 32.0% | 39.3% | 58.9% | 66.7% | 25.0% |
| No | 68.0% | 60.7% | 41.1% | 33.3% | 75.0% |

### 5.6 Research Question: Detailed Mobility Disability

The CFU also asked detailed questions about mobility disability. Independent to respondents answers on the initial survey, people were asked if they used an ambulatory aid like a cane or wheelchair and to describe the level of difficulty performing the activities of walking a quarter mile and climbing a flight of stairs, both with and without the use of the ambulatory aid. Like the hearing and seeing questions, the distribution of responses to these detailed questions were similar in both the control and test groups, as seen in Table 8.

For people who responded "yes" to difficulty walking or climbing stairs in the test version, 43.9 percent indicated that they used an ambulatory aid. Of that group, 88.0 percent reported "very difficult" or "can't do at all" for walking a quarter mile or climbing stairs without their aid. For that same group, 74.3 percent reported "very difficult" or "can't do at all" for walking a quarter mile or climbing stairs with use of their aid.

For people who did not use an ambulatory aid, the distribution of difficulty walking and climbing stairs was more evenly distributed. This distribution, like in the hearing and seeing detailed questions, when broken up by response to the follow-up mobility question, showed greater difficulty for people who answered "Yes" in the CFU.

For people who, in any of the detailed questions, answered "a little difficulty" or greater, 87.8 percent reported that their difficulty has lasted for one year or longer. Of the 2.5 percent who responded "less than six months," 58.9% expected the difficulties to continue six or more months. So, even without the long-lasting condition lead-in, respondents appear to be answering as such.

### 5.7 Research Question: Detailed Self-care Disability

For the self-care disability detailed questions, respondents were asked questions regarding the use of help in bathing or dressing and the degree of difficulty they had bathing without assistance and dressing without assistance. Unlike the detailed questions in the prior topics, self-care also asked how frequently did the person use the assistance. As seen in Table 9, the test and control groups responded similarly to the detailed questions on self-care, just like other detailed question sets.

For people who responded "yes" to the self-care question in the test version of the initial survey, 57.9 percent answered that they use the assistance of another person or special equipment in order to bathe or dress. Without that assistance, 64.3 percent reported "very difficult" or "can't do at all" for bathing yourself and 46.3 percent reported the same for dressing yourself. For those who reported "a little difficult" or more severe for bathing themselves, 68.0 percent reported "always" using assistance. For those who reported "a little difficult" or more severe for dressing themselves, 47.3 percent reported "always" using assistance.

**Table 9. Percentage Distribution of Responses to CFU Detailed Self-care Questions**

| | All People | | Test Treatment Yes to Self-care Item in Original Interview | | |
|---|---|---|---|---|---|
| | **Control** | **Test** | **CFU: Any** | **CFU: Yes** | **CFU: No** |
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | |
| Yes | 2.8% | 2.7% | 57.9% | 83.2% | 13.4% |
| No | 97.2% | 97.3% | 42.1% | 16.8% | 86.6% |
| Difficulty bathing by yourself without assistance (if uses help from another person or special equipment) | | | | | |
| Not Difficult | 15.0% | 17.4% | 4.3% | 3.2% | 16.3% |
| A little difficult | 12.7% | 20.5% | 13.5% | 10.5% | 46.8% |
| Somewhat difficult | 29.6% | 19.0% | 17.8% | 17.9% | 17.4% |
| Very difficult | 19.3% | 20.8% | 28.6% | 30.3% | 9.5% |
| Can't do at all | 23.3% | 22.4% | 35.7% | 38.1% | 10.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | |
| Never | 1.8% | 1.9% | 1.4% | 1.1% | 5.7% |
| Rarely | 8.2% | 5.7% | 1.4% | 0.5% | 12.6% |
| Occasionally | 26.1% | 29.5% | 22.4% | 21.2% | 37.6% |
| Usually | 12.4% | 9.6% | 6.8% | 7.3% | 0.0% |
| Always | 51.4% | 53.4% | 68.0% | 69.8% | 44.1% |
| Difficulty dressing by yourself without assistance (if uses help from another person or special equipment) | | | | | |
| Not Difficult | 24.7% | 24.9% | 7.9% | 5.7% | 32.7% |
| A little difficult | 16.8% | 22.8% | 20.1% | 18.5% | 37.3% |
| Somewhat difficult | 31.9% | 24.9% | 25.7% | 25.6% | 26.9% |
| Very difficult | 13.1% | 12.7% | 22.2% | 24.0% | 2.1% |
| Can't do at all | 13.6% | 14.7% | 24.1% | 26.2% | 1.1% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | |
| Never | 8.2% | 3.1% | 3.1% | 2.8% | 8.5% |
| Rarely | 14.6% | 15.0% | 5.4% | 5.3% | 6.9% |
| Occasionally | 25.1% | 34.3% | 30.6% | 28.3% | 65.3% |
| Usually | 14.7% | 12.2% | 13.6% | 13.9% | 8.5% |
| Always | 37.5% | 35.4% | 47.3% | 49.7% | 10.8% |

## 5.8 Detailed Cognitive Disability

The biggest difference between the cognitive disability questions in the control and test versions was in the qualifiers. While “remembering“ and “concentrating” remained in the question, “learning” was replaced by “making decisions.” Looking at the detailed cognitive questions we see how respondents interpreted this question.

For those who answered “yes” to having a cognitive disability in the control version, 51.6 percent identified with “learning”, 72.5 percent identified with “remembering” and 65.1 percent identified with “concentrating”. For those who answered “yes” to having a cognitive disability in the test version, 74.6 percent identified with “remembering” and 71.1 percent identified with “concentrating”. In a separate question, 53.0 percent responded to having a “learning disability.” These distributions seem similar, indicating that the two questions are still capturing similar groups.

**Table 10. Percentage Distribution of Responses to CFU Detailed Cognitive Questions**

| | Control : Yes CFU: Yes | Test: Yes CFU: Yes |
|---|---|---|
| Do you have a learning disability | | |
| Yes | --------- | 53.0% |
| No | --------- | 47.0% |
| Which type of activity is difficult? | | |
| Learning | 51.6% | --------- |
| Remembering | 72.5% | 74.6% |
| Concentrating | 65.1% | 71.1% |
| Making decisions | --------- | 60.9% |

# 6. SUMMARY OF EMPIRICAL RESULTS

Based on the selection criteria mentioned in section 2.2, the proposed changes to the disability question set found in the test version empirically perform better. The test version had lower item nonresponse rates for all disability items and equal or better reliability for all disability items meeting the selection criteria.

The proposed changes result in better questions, in terms of reliability and response and their ability to better identify the population of persons with disabilities.

# References


Adler, Michele C., Robert F. Clark, Theresa J. DeMaio, Louisa F. Miller, and Arlene F. Saluter. "Collecting Information on Disability in 2000 Census: An Example of Interagency Cooperation." *Social Security Bulletin*, Vol. 62, No. 4, pp 21-30, 1999.

Asiala M. and Navarro A. (2006). "Experimental Design for the 2006 American Community Survey Content Test," American Statistical Association 2006 Proceedings of the Section on Survey Research Methods [CD-ROM].

McNeil, Jack to Meyer Zitter. Memorandum regarding Making a Decision About the Disability Item for 1980. August 3, 1978. U.S. Bureau of the Census.

McNeil, Jack to Paula Schneider. Memorandum regarding National Content Test Results and Initial Recommendations Concerning Disability Items for the 1990 Census. January 9, 1987. U.S. Bureau of the Census.

Stern, Sharon, 2003, "Counting People with Disabilities: How Survey Methodology Influences Estimates in Census 2000 and the Census 2000 Supplementary Survey," Proceedings from 2003 Joint Statistical Meetings, (May): 4064-4071, see <http://www.census.gov/acs/www/Downloads/ACS/finalstern.pdf>.

Stern, Sharon. "Disability Data in the Decennial Census and the American Community Survey: Review of Recent Estimates," working paper presented at the Joint Statistical Meetings, August 7, 2005.

U.S. Census Bureau, National Content Test, 1976, Results Memorandum No. 10 "Disability Data from the National Content Test and the National Content Test Reinterview." From David L. Kaplan, Prepared by McNeil, J. and D. Sater, September 9, 1977.

U.S. Census Bureau, 2004. *Report 9: Comparing Social Characteristics With Census 2000.* Meeting 21st Century Demographic Data Needs—Implementing the American Community Survey, Washington, DC, 2004, <http://www.census.gov/acs/www/Downloads/Report09.pdf>.

**Appendix A:**
**CONTENT TEST INFORMATION PAGE**
**For DISABILITY (CFU required)**

**Question Wording**:

| Current ACS Wording | Content Test Wording |
|---|---|
| *Answer questions 15 and 16 ONLY if this person is 5 years old or over, Otherwise, SKIP to the questions for PERSON 2 on page 10.*<br><br>**Does this person have any of the following long-lasting conditions:**<br><br>Yes No<br>a. Blindness, deafness, or a severe vision or hearing impairment? □ □<br>b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting or carrying? □ □<br><br>**Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:**<br><br>Yes No<br>a. Learning, remembering, or concentrating? □ □<br>b. Dressing, bathing, or getting around inside the home? □ □<br><br>*Answer question 17 ONLY if this person is 15 years old or over, Otherwise, SKIP to the questions for PERSON 2 on page 10.*<br><br>**Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:**<br><br>Yes No<br>a. Going outside the home alone to shop or visit a doctor's office? □ □<br>b. Working at a job or business? □ □ | **a. Is this person deaf or does he/she have serious difficulty hearing?**<br>□ Yes<br>□ No<br><br>**b. Is this person blind or does he/she have serious difficulty seeing even when wearing glasses?**<br>□ Yes<br>□ No<br><br>*Answer question 17a if this person is 5 years old or over. Otherwise SKIP to the questions for Person 2 on page 10.*<br><br>**a. Because of a physical, mental or emotional condition, does this person have serious difficulty concentrating, remembering or making decisions?**<br>□ Yes<br>□ No<br><br>**b. Does this person have serious difficulty walking or climbing stairs?**<br>□ Yes<br>□ No<br><br>**c. Does this person have difficulty dressing or bathing?**<br>□ Yes<br>□ No<br><br>*Answer question 18 if this person is 15 years old or older. Otherwise, SKIP to the questions for person 2 on page 10.*<br><br>**Because of a physical, mental, or emotional condition, does this person have difficulty doing errands alone such as visiting a doctor's office or shopping?**<br>□ Yes<br>□ No |

**Research Questions & Evaluation Measures**:

| No. | Research Questions | Evaluation Measures |
|---|---|---|
| 1. | Do the following changes to the disability series improve the overall reliability in identifying disability status for all respondents, for only self-respondents, and for only proxy respondents?<br><br>- Change placement of "5 years or older skip instruction" to after the hearing and vision questions<br>- Ask about hearing and vision in separate questions<br>- Add qualifier "even when wearing glasses" to vision question<br>- Remove key terms/phrases "long-lasting condition" and "impairment" from the hearing, vision, and mobility questions<br>- Change the format/layout to exclude long lead-ins followed by 2 or more dependent sub-parts.<br>- Add the phrase "does this person have [serious] difficulty" before each function or activity.<br>- Add the modifier "serious" to the hearing, vision, mobility, cognition/mental functioning.<br>- Remove phrase "substantially limits" from the mobility question<br>- Switch the placement of the mobility question with the cognition/mental functioning question<br>- Remove the phrase "lasting 6 months or more" from the cognition/mental functioning, self-care/independence, daily activities question<br>- Remove the work question | Compare the 'disabled/not disabled' Gross Difference Rate (GDR) between control and test for all respondents, for only self-respondents, and for only proxy respondents<br><br>*Note that daily activities and work questions are not used in determining disability status*<br><br>Compare the GDR for each of the individual disability questions between test and control for all respondents, for only self-respondents and for only proxy respondents<br><br>*Note that since the 5 year and older skip instruction at the beginning of the disability series was moved to after the vision and hearing questions on the test panel, the test panel will need to be subset to persons 5 years and older in order to make this comparison*<br><br>*For the independent living question, subset respondents to only those 15 and older.* |
| 2. | For the test version of the hearing and vision questions, what is their reliability for persons 0-4 year old? | Report the GDR for the test versions of the hearing and vision questions for the 0- 4 year old universe. *(There is no comparable universe in the control panel or in historical ACS data.)* |
| 3. | What impact do the proposed changes have on item nonresponse? | Compare item nonresponse rates for each of the disability series question between test and control |
| 4. | For those people who respond they have cognitive/mental difficulties in both the CFU and the original interview, what specific cues lead to the 'yes' response (i.e., learning, remembering, concentrating for control, and | For those who answer consistently 'yes' to both reinterview (CFU) and the original, compare the distributions of the reported cognitive/mental difficulties.<br><br>For those who provided an inconsistent answer between |

| | | |
|---|---|---|
| | concentrating, remembering, making decisions for test)? Is there a difference in the number or type of cues identified for people who respond consistently and those who don't between the original interview and reinterview (CFU)? | original and reinterview (CFU), compare the distributions of the reported cognitive/mental difficulties<br><br>*Only people who give a 'yes' response in the CFU are asked the question about the specific cues* |
| 5. | Based on a more detailed set of questions in the CFU, how do respondents answering 'yes' for any or all of the disability questions compare between the test and control in terms of :<br>- degree of difficulty (5 point scale)<br>- chronic or situational condition leading to the 'yes' response | Compare the distribution of yes/no by degree of difficulty responses between the test and control.<br><br>Compare the distribution of chronic/situational conditions for 'yes' responses between control and test<br>*For both comparisons, set three universes: those whose original and reinterview responses agree; those who don't agree, and; overall using the yes/no responses in the CFU* |
| 6. | What is the reliability of the work question (control version only) for all respondents, for only self-respondents, and for only proxy respondents? | Report the GDR for the work question for all respondents, for only self-respondents, and for only proxy respondents and assess comparability to GDR reported in Census 2000 reinterview program |

**Selection Criteria:**

| Research Q | Criteria |
|---|---|
| 1 | Gross Difference Rate (GDR) for the test version is equal or less than the control version for 'disabled/not disabled' as well as for the individual questions. |
| 3 | Item missing data rates for the test version are less than or equal to that of the control |
| 4, 5, 6 | Not part of the selection criteria – for informational purposes only |

Minimum criteria for selecting the 'test' version:
The outcome of the test will result in selecting either the entire control set or the entire test set. We cannot select one or more questions from the test set and the balance from the control.

- The GDR for 'disabled/not disabled' will be equal to or smaller than the control version, and
- The GDR for the vision and hearing questions in the test version will be equal to or smaller than the combined vision and hearing question in the control version, and
- The GDR for on other individual disability question is smaller in the test version than the control version

# Report of Cognitive Research on Proposed American Community Survey Disability Questions

Kristen Miller
National Center for Health Statistics

Theresa J. DeMaio
U.S. Census Bureau

August 14, 2006

**Report of Cognitive Research on Proposed American Community Survey Disability Questions**

**Evaluation conducted by**
**The National Center for Health Statistics**
**U.S. Bureau of the Census**

**June, 2004 - January, 2005**

**Kristen Miller, NCHS**
**Theresa J. DeMaio, U.S. Census Bureau**

This report summarizes the cognitive test findings of questions proposed by The American Community Survey Disability Working Group. In the interest of improving disability measures for the American Community Survey (ACS), the work group was established to consider possible modifications to the existing set of questions. After reviewing legislative requirements, the group identified ACS questions to be reworded or replaced and developed a proposed set of alternative questions. Cognitive testing of the proposed questions was conducted jointly by the cognitive laboratory staff at the National Center for Health Statistics (NCHS) and the U.S. Census Bureau's Center for Survey Methods Research in the Statistical Research Division. Specific goals of cognitive testing were to:

1. identify respondent interpretations and determine whether interpretations are consistent with the committee's intent;
2. identify potential response errors, particularly, false negative responses;
3. improve test questions (should errors become evident during interviewing) and retest revised versions; and
4. investigate question performance within the context of differing administration modes, specifically, face-to-face interviewer-administered, telephone interviewer-administered, and self-administered.

After a brief discussion summarizing the workgroup's deliberations, this report will first describe the cognitive test methods at NCHS and the Census Bureau and will, then, present results of test findings along with recommendations.

## ACS Subcommittee Issues for Cognitive Testing

Consistent with the definition established by the Americans for Disabilities Act (ADA), the ACS subcommittee determined that, in order to measure prevalence, the concept of disability would be defined as a mental or physical impairment that substantially limits at least one major life activity. Additionally, the subcommittee concluded that a short battery of questions organized by domains of limitation would adequately generate a population estimate that could fulfill

analytic requirements, specifically, to evaluate equalization of opportunity for those with disabilities (e.g., housing and employment opportunity). The limitation domains include: sensory (i.e., vision and hearing), motor function (i.e., lower body mobility), cognition, activities of daily living, instrumental activities of daily living, and work. The following questions, signifying each domain, represent the original questions proposed by the subcommittee and were the initial questions tested in the cognitive evaluation:

1. Do you/Does (insert name) have serious trouble hearing or are you/they deaf?
2. Do you/Does (insert name) have serious trouble seeing or are you/they blind?
3. Because of a physical, mental or emotional condition, do you/does (insert name) usually have difficulty concentrating, remembering or making decisions?
4. Do you/Does (insert name) usually have difficulty walking or climbing stairs?
5. Do you/Does (insert name) usually have difficulty dressing or bathing?
6. Because of a physical, mental or emotional condition, do you/does (insert name) usually have difficulty going outside the home alone to visit a doctor's office or to shop?
7. Are you/is (insert name) unable to work at all or are you/is s/he limited in the type of work you/s/he can do or number of hours you/he/she work(s)?

## Methodology

The objective of cognitive testing is to provide an in-depth exploration of particular concepts, processes and patterns of interpretation within the survey question-response process. Analysis of cognitive interviews: 1) illustrates themes or patterns as well as inconsistencies in participants' interpretations of questions; 2) characterizes response problems or difficulties; and 3) indicates potential sources of response error.

Data collection procedures for cognitive interviewing differ significantly from those of survey interviewing. While survey interviews adhere to scripted questionnaires, cognitive interviews are less standardized and inquire into the ways in which respondents construct answers to survey questions, providing insight into accuracy as well as into the presence and type of response error. Emergent, non-scripted probes help to make sense of gaps or contradictions in respondents' explanations and elicit contextual information needed to precisely define question problems. Additionally, cognitive testing employs an inductive, qualitative methodology and, consequently, draws upon a relatively small non-representative sample.

Respondents' answers to survey questions are necessarily based on personal experience and perceptions of that experience. Therefore, it is impossible to altogether avoid respondent subjectivity and obtain an entirely objective picture of disability status. In their response, respondents may incorporate a variety of differing factors including their age, health status, sense of independence, whether or not they perceive themselves as having a problem, whether others have told them that they have a problem, and whether they need help or use an assistive device. Additionally, when respondents are asked to report for other members of their household (i.e., reporting as a proxy-respondent), an additional layer of context and meaning is added. Not only does the response represent their own perception of the household member's condition, but

it also reflects their relationship with that household member.

In this regard, it is unfeasible to develop questions that yield a perfect measure of disability; disability statuses, as they are derived from survey questions, are subjective statuses that are grounded in respondents' perceptions and interpretations. The method of cognitive testing, however, provides insight into the types of potential response errors so that egregious errors can be fixed and so that decisions can be made to determine what, if any, errors will be tolerated to generate the best statistics. Additionally, the method provides a better understanding of both the strengths and weaknesses of the data.

Method for Testing the ACS Workgroup Disability Questions

Between NCHS and the Census Bureau, five rounds of interviews were conducted, comprising 69 total interviews. Interviews were conducted in rounds so that, if questions were revised, they could then be retested. Additionally, because rounds alternated between the Census Bureau and NCHS, findings between the two agencies could be compared.

Cognitive interview respondents had a range of health conditions and physical limitations including hearing and vision problems, mental health conditions (e.g. schizophrenia and depression), physical conditions (e.g. arthritis), learning disabilities and temporary injuries. Additionally, a few respondents had no conditions or physical limitations. Respondents were recruited either through a newspaper advertisement or were pulled from a database of eligible respondents. After the interview, all respondents were paid $50.

Because the ACS uses a mixed-mode design, incorporating mail, telephone, and personal visits, all three modes were tested via cognitive interviews. NCHS conducted face-to-face and telephone interviews, while the Census Bureau conducted interviews using a self-administered questionnaire. Chart 1 summarizes the 5 different rounds, outlining which agency conducted the testing for each round, the interview mode, as well as the number and characteristics of respondents.

Chart 1: Cognitive Interview Rounds for the ACS Disability Questions

| | | | | | | Limitations reported by respondent in telephone screener | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Respondents | Race | Education | Gender | Age | Hearing | Vision | Physical | Mental/ emotional |
| Round 1<br><br>NCHS<br><br>Face-to-face | 17 | White=14<br>Black=2<br>Hispanic=0<br>American Indian=1<br>Other=0 | Some HS=0<br>HS degree=3<br>Some college=9<br>BA degree=2<br>Post-grad=3 | F=9<br>M=8 | 18-30= 0<br>31-50= 9<br>51-70= 4<br>71+=4 | 5 | 3 | 9 | 7 |
| Round 2<br><br>Census Bureau | 18 | White=11<br>Black=6<br>Hispanic=0 | No HS= 1<br>Some HS= 1<br>HS degree= 2 | F=12<br>M=6 | 18-30= 3<br>31-50= 10 | (Telephone screener data not collected for Census Bureau interviews) | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Self-administered | | American Indian=1<br>Other=0 | Some college= 6<br>BA degree= 3<br>Post-grad= 5 | | 51-70= 4<br>71+= 1 | | | | |
| Round 3<br><br>NCHS<br><br>Telephone | 9 | White=9<br>Black=0<br>Hispanic=0<br>American Indian=0<br>Other=0 | Some HS=0<br>HS degree=3<br>Some college=1<br>BA degree=3<br>Post-grad=2 | F=5<br>M=4 | 18-30= 0<br>31-50= 2<br>51-70= 1<br>71+=6 | 5 | 3 | 5 | 2 |
| Round 4<br><br>NCHS<br><br>Face-to-face | 15 | White=13<br>Black=2<br>Hispanic=0<br>American Indian=0<br>Other=0 | Some HS=0<br>HS degree=1<br>Some college=1<br>BA degree=4<br>Post-grad=9 | F=8<br>M=7 | 18-30= 0<br>31-50= 3<br>51-70= 6<br>71+=6 | 6 | 2 | 5 | 7 |
| Round 5<br><br>Census Bureau<br><br>Self-administered | 10 | White= 3<br>Black= 7<br>Hispanic=0<br>American Indian= 0<br>Other= 0 | Some HS=0<br>HS degree=6<br>Some college= 1<br>BA degree=0<br>Post-grad= 3 | F= 8<br>M= 2 | 18-30= 0<br>31-50= 9<br>51-70= 1<br>71+= 0 | (Telephone screener data not collected for Census Bureau interviews) | | | |

Interviewing Protocol

The average interview was an hour in length, though interviews varied depending on the size of respondents' household as well as the type and number of limitations that a respondent experienced. The face-to-face and telephone interviews were structured by retrospective probing. That is, the interviewer first asked the participant each question for every member of their household (including themselves) and then returned to each question for a more in-depth examination of the question-response process. Because so few questions were evaluated, participants were able to retain and then speak to their perceptions of the question in a follow-up discussion. This approach, as opposed to concurrent probing, was deemed particularly useful by investigators because it ensured that participants' conceptualizations and orientation toward each question was unaffected by discussion of the preceding question. Additionally, a retrospective approach allowed the interviewer to re-ask each question, checking the consistency of the responses. In the follow-up discussion of each question, interviewers asked in-depth, emergent probe questions to fully understand how the respondent interpreted the question and constructed a response. In the cases where respondents were unable to or had difficulty providing an answer, the interviewer would ask questions specifically toward understanding the nature of the difficulty.

The self-administered interviews were conducted using a think-aloud method with probing. Using a paper questionnaire, respondents were instructed to read out loud as they completed the form and think out loud as they answered the questions. This allowed the interviewer to observe

the respondents' misreading of questions, skipping over parts of the questions or instructions, hand or facial gestures that indicate problems, as well as their initial thoughts as they encountered each question. In addition, interviewers asked emergent probe questions during the interview about how respondents came up with their answers, how they defined terms contained in the questions, and whether they thought specific issues would affect answers to the questions. Care was taken to administer these probing questions at places during the interview where the respondents' answers would have least impact on their answers to subsequent questions. At the end of the interview, debriefing questions were asked to clarify situations that surfaced during the interview but were inappropriate to probe at that time. Probes to identify difficult and sensitive questions were also asked during the debriefing.

Analysis of Interviews

Analysis was conducted from interviewer notes, audio taped interviews, and video recordings of interviews. For the NCHS interviews, interview notes and video clips were collated by question so that comparisons could be made systematically across all participants. For the Census Bureau interviews, audio-taped interviews were listened to and summarized by the interviewer, and then the summaries were analyzed across questions for all respondents. Two levels of analysis were then performed. First, distinct occurrences in which respondents specifically expressed difficulty or confusion while answering were noted. Second, respondents' interpretations of each question were examined. To analyze the interpretive aspects of question response, the constant comparative method, a standard method for analyzing qualitative data was employed. By comparing across all cases, individual responses were categorized according to a respondent's particular interpretation of a question. From these categories, interpretive aspects (e.g., the consistency and degree of variation among respondents) of each question were examined.

## Summary of Findings

While each question generated specific findings from the cognitive interviews and are presented in the following section, several common themes emerged across the domains that also warrant discussion.

Determining severity of impairment

The primary difficulty that respondents experienced when answering the set of questions was in determining whether or not their particular impairment was severe enough to warrant a positive response. To determine whether to report an impairment, respondents had to consider and weigh out various components of their condition as well as to compare and rate their level of impairment with others or with a more abstract standard. Although this process occurred throughout each disability domain, the various domains required respondents to consider different dimensions or characteristics inherent to that particular limitation. For example, in the domain of hearing, respondents considered the impact that their possible impairment actually

had on their day-to-day life, whether they were able to adapt, the various contexts in which their hearing trouble occurred (e.g. in a crowded room, on the telephone or watching television) and the number of times that they were in those contexts. On the other hand, for the lower mobility question, respondents considered their level of endurance, specifically, how far and how quickly they could walk as well as whether these activities required the use of a cane or a walker. In the cognition question, respondents considered the types of memories that they might forget—whether trivial (e.g. a name) or serious (e.g. taking essential medicine), and the frequency that the loss occurs. Additionally, for the cognitive functioning question, some respondents attempted to exclude episodes of aging-related problems which were seen as a part of a "normal" and "inevitable" process.

Although clear patterns or themes of consideration can be identified across respondents and within each domain, each domain question is a subjective measure based on respondents' calculations and ultimate determination of what constitutes a report-able impairment. Especially for those respondents with undiagnosed conditions or in the beginning or middle stages of a progressive condition, this was the most burdensome aspect of the question response process. That is, the question structure required respondents to discern a clear line of yes or no in a reality that, for them, was essentially grey and multi-dimensional.

The role of assistive devices

Related to the issue presented above, for most of the domain questions, activities could be associated with corrective devices that, when used, would decrease limitations. Therefore, interviews investigated how the use of assistive devices might affect the question response process. For example, numerous respondents had vision problems that were entirely corrected with glasses. Many older respondents, who were unable to walk long distances were able to do so with a walker. Additionally, a few respondents, when reporting for their child diagnosed with ADD explained that, for the cognitive functioning question, when their child is taking medication, he or she has no problems concentrating. Respondents, however, did not consistently account for assistive devices (some accounted for the aid, and others did not), and whether or not respondents considered the use of the device would alter their response.

The initial version of all questions tested excluded reference to the corrective devices, and interview findings indicate that, for some domains (particularly vision), reference to the assistive device would dramatically improve consistency across reports. This pattern, however, was not consistent across the different domains. While the addition of a phrase, *even if wearing glasses*, was beneficial to the vision domain, an assistive device clause for the hearing domain had the opposite effect. When the phrase, *even if wearing a hearing aid* was added, respondents' parameters for defining a hearing problem became much stricter, causing a decrease in the reporting of hearing problems. Additionally, some respondents misheard the question and interpreted the question to be asking whether or not they wore a hearing aid. Similarly, a phrase was added to the self-care question but, like the hearing domain, the clause appeared to restrict the scope of limitations that respondents reported.

The general conclusion in regard to inclusion of an assistive device reference is that no blanket rule can be applied for all domains. It may be optimal to ask additional questions, first about the use of aids followed by an impairment question. This option, however was not possible for the space-limited ACS, and recommendations for the use of the clause are based on consideration of the need for consistency balanced with the need to reduce over-restriction of reported limitations.

Modal variation

As indicated in the methods section, the set of questions were tested in three administrative modes: self-administered, face-to-face interviewer-administered, and telephone interviewer-administered. Test results suggest that the differing modes of administration had little impact on the ways in which respondents interpreted or responded to questions. The only impact of administration mode on the question response process pertained to the use of the word "or" in the vision and hearing questions. Specifically, in NCHS interviews that were administered by an interviewer, many respondents heard the question, not as a yes/no question, but as a question inquiring into which particular type of hearing trouble they had, that is, were they deaf or did they have serious trouble hearing? Instead of answering *yes* or *no*, then, these respondents answered "neither" or "I have serious trouble hearing." In these situations, the interviewer needed to restate the question, asking for a yes or no response. This problem did not occur in self-administered interviews where respondents could see for themselves that the question was yes/no and that they were to check either the box marked yes or the box marked no.

## Question by Question Review

The following section of this report provides the cognitive test findings for each proposed question as well as the revised versions tested in subsequent rounds. For each domain, discussion will describe the ways in which the various questions were interpreted by respondents as well as response errors identified in the cognitive interviews. Recommendations are also included.

## Hearing

Tested Versions of the Proposed Hearing Question

Round 1: **Do you/Does (insert name) have serious trouble hearing or are you/they deaf?**
**Are you/Is (insert name) deaf or do you/they have serious trouble hearing?**

Round 2: **Is this person deaf or do they have serious trouble hearing?**

Round 3: **Are you/Is [insert name] deaf or do you/they have difficulty hearing even**

**when wearing a hearing aid?**

Round 4: **Are you/Is [NAME] deaf or do [you/they] have serious difficulty hearing?**

**Are you/Is [NAME] deaf or do [you/they] have serious difficulty hearing without the use of a hearing aid?**

Round 5: **Is this person deaf or do they have serious difficulty hearing?**

**Question Interpretation**

For versions of the question tested in Rounds 1 and 2, most respondents included hearing loss conditions that were doctor-diagnosed regardless of whether or not a hearing aid was used. Still, when describing their conceptualizations of *having hearing trouble*, the vast majority of respondents mentioned the need (or lack there) of a hearing aid. Most respondents in both NCHS and Census Bureau interviews indicated that the use of a hearing aid necessarily indicated serious trouble hearing, though a few respondents also noted that because hearing aid technology was substandard, not using a hearing aid should not imply that a person's hearing was satisfactory. Additionally, respondents typically defined *serious trouble hearing* within the context or circumstances of their daily life. For example, one Census Bureau respondent explained that serious trouble hearing was "when someone is hollering across a table at you." Another Census Bureau respondent who is a construction worker defined the condition as it pertained to safety in his job: "if you cannot hear someone who comes up behind you or you cannot hear loud noises."

The ways in which respondents conceptualized *serious trouble hearing* ranged across degrees of severity—from a severe disabling condition to one of inconvenience. This range was found in both Census Bureau and NCHS interviews. While the majority of respondents' interpretations were not extreme in either direction, some respondents did hold particularly conservative or particularly liberal conceptualizations. Respondents holding particularly conservative conceptualizations included only conditions that affect important daily activities or that demand the use of a hearing aid. For example, one NCHS respondent diagnosed with moderate hearing loss explained that, though he uses close-captioned television and does miss words in conversations, this was not a critical problem, and he is able to get by without a hearing aid. Another NCHS respondent who was diagnosed as having 30% hearing loss and requires hearing aids in both ears, held an exceedingly conservative interpretation of *serious trouble hearing:* "not being able to hear a fire engine going past you" or "you can't hear at all." Because her hearing condition was not at this extreme level, she experienced particular difficulty providing (what she deemed to be) an accurate answer. Instead of answering yes or no, she responded, "I'm hearing impaired," and when asked again, she responded, "I'm not deaf, but I wear hearing aids in both ears." When pressed by the interviewer, she ultimately responded "yes" and qualified her answer, explaining that she is unable to hear in only some situations, specifically, when there is a lot of background noise or when someone is speaking softly.

Some respondents, on the other hand, held particularly liberal interpretations of the question. These respondents possessed a much lower threshold for *serious trouble hearing* and considered hearing conditions which required others "to sometimes speak up" or "to repeat themselves" or that "needed the television volume up" above what was perceived as a normal level. These more liberal interpretations tended to occur for proxy responses, that is, when respondents were asked to answer for other members of their household. For example, one Census Bureau respondent, when providing a proxy report for her tenant, stated that although her tenant has neither a hearing aid nor cognitive problems, she surmised that the tenant must have serious trouble hearing: "Many times when I try to talk to her...she cannot hear what we are saying and gives off-the-wall answers." Similarly, one NCHS respondent at first reported his girlfriend as having a serious hearing problem because she would often ask him to repeat himself. In later discussion of the question, however, he changed his response saying that her condition did not require a hearing aid and was "not really a *serious* problem."

Impact of Word Order on Interpretation

In comparing the two question variations tested in Round 1, no differences were identified in response patterns. That is, patterns of interpretation as well as types of difficulties did not vary depending on the order of wording, suggesting that placement of the phrase *serious trouble hearing* before or after the word *deaf* did not impact respondents' interpretations. In both questions, liberal and strict interpretations were identified across respondents. Other than wording order, respondents' interpretations of the question are more likely based upon pre-existing knowledge and personal experience with hearing difficulty. For example, many respondents who throughout the course of their lives have had a hearing impairment were less likely to view the loss as serious because over time they have adapted. From their perspective, the loss does not dramatically affect their daily activities and, therefore, could not be serious. Conversely, those respondents who found themselves speaking up or repeating for family members, and who were also personally inconvenienced or worried that the inconvenience was symptomatic of a larger hearing problem were more likely to consider these more benign conditions as serious. It is the pre-existing circumstances, not word order in the question, that frames respondents' interpretation, impacting how they will respond.

Inclusion of Hearing Aid Clause

With the addition of the hearing aid clause in Round 3, respondents' interpretations of the question appeared more conservative than in versions tested in Rounds 1 and 2. Respondents tended to interpret the question as asking, "Is your hearing problem so severe that hearing aids cannot improve your hearing?" or "Are you deaf or are you essentially deaf?" Consequently, only respondents who routinely wore hearing aids even considered answering yes; those who did not (for whatever reason—lack of need, financial barriers, or cumbersomeness) tended to opt out. For example, one woman reporting as a proxy for her husband stated that she simply could not provide an answer. He has difficulty hearing, she explained, but he refuses to wear his hearing aids so is unable to know if they correct his problem.

For those respondents who did regularly wear hearing aids, considering what to answer involved determining whether or not their devices actually *corrected* their hearing, that is, corrected it enough to consider that they no longer had difficulty. However, because hearing aids typically do not entirely correct hearing problems in all situations, these respondents experienced difficulty determining whether their condition should be considered serious. Of the seven respondents in Round 3 with hearing conditions (either for self or as proxy), three respondents with situational problems ultimately chose to answer *yes* and one chose to answer *no*. However, three respondents stated that they simply could not answer and explained that the more accurate answer was *sometimes*.

After half of the interviews in Round 3 were completed, interviewers asked the identical question but without the clause (*Are you deaf or do you have difficulty hearing?*) just prior to the question with the clause (*Are you deaf or do you have difficulty hearing even when wearing a hearing aid)*. Interestingly, none of the remaining respondents saw the two questions as repetitive; the questions were seen as asking about two different phenomena: the first about significant hearing loss, the second about the usefulness of hearing aids. Additionally, while 3 of the remaining 4 respondents with diagnosed hearing loss experienced difficulty responding to the version with the clause (i.e., hesitating or answering "sometimes"), none had difficulty responding to the question without the clause.

In round 4, the opposite version of the assistive device clause (i.e., *without the use of a hearing aid*) was tested. With the inclusion of this clause, several serious problems emerged. First, numerous respondents erroneously interpreted the question as pertaining only to respondents who used hearing aids. Consequently, those respondents with hearing problems but who do not wear hearing aids quickly answered no, thinking that the question did not apply to them and that they were "off the hook." In another case, one woman responded no as a proxy report for her son, not because his hearing problem is not serious, but because his problem is so serious that hearing aids do not help and, consequently, he does not wear them.

Additionally, with the inclusion of the clause *without the use of a hearing aid*, numerous respondents mistakenly heard the assistive device clause in the vision question that follows. Instead of hearing *even when wearing glasses*, respondents intuited that the clauses in the two questions would be consistent and so, consequently, heard *without the use of glasses* (as opposed to *even when wearing glasses*). This change dramatically altered the meaning of the vision question (see discussion of Vision Question) and generated numerous false positive responses for the vision question.

**Question Response Problems**

The vast majority of response difficulties associated with this question occurred when respondents deemed their hearing condition (either their own or another household member's) as situational or "on the brink" of being a serious problem. Those respondents who had difficulty hearing in specific circumstances struggled to determine if "on average" the problem was serious. Additionally, because respondents' answers necessarily hinge upon the circumstances of

their hearing trouble, some respondents had many factors to consider before answering. In order to respond accurately, respondents considered factors such as the types of sound (i.e., high vs. low pitches), the number of people in a room, the amount of background noise, the frequency in which they find themselves in hard-to-hear situations, and the impact that the limitation has on their life.

Additionally, in NCHS interviews that were administered by an interviewer, many respondents heard the question, not as a yes/no question, but as a question inquiring into which particular type of hearing trouble they had, that is, were they deaf or did they have serious trouble hearing? Instead of answering *yes* or *no*, then, these respondents answered "neither" or "I have serious trouble hearing." In these situations, the interviewer needed to restate the question, asking for a yes or no response. This type of response problem did not occur in Census Bureau interviews that were self-administered. In these interviews, respondents could see for themselves that the question was yes/no and that they were to check either the box marked yes or the box marked no.

Finally, a few NCHS respondents noted that the hearing question is sensitive and indicated that either they or their household members do not like to readily admit that they have a problem with their hearing. For example, one respondent explained that because hearing loss is associated with aging, he feels somewhat embarrassed by the question. Additionally, one Census Bureau respondent stated that the term *deaf* was offensive and said the American Psychological Association (APA) guidelines suggest using the term *person with hearing disability*. (Although the respondent seemed very knowledgeable about this topic, review of the APA website did not reveal this information.) Another Census Bureau respondent, a mother of an 18-year old with Downs Syndrome, felt that the question made her want to advocate for her son who technically does not have hearing difficulty but has auditory processing problems. While the respondent saw a difference between his problems and those confronted by the deaf, she felt obliged to answer yes to the question, stating that this problem will affect his ability to hold a job once he is on his own.

**Version Recommended for the ACS: Are you deaf or do you have serious difficulty hearing?**

This version of the hearing question is recommended because it was interpreted most consistently across cognitive interview respondents. Variations of the question which included the hearing aid clause received a broad range of interpretations among respondents and, in some cases, dramatically altered the intent of the question. Additionally, response error was generated in the following vision question when the clause *without the use of a hearing aid* was used.

The limitation domain of hearing, especially when compared to that of vision, was more complex in terms of design and potential response error problems. For example, hearing problems are not as correctable as vision problems and so respondents with hearing aids were faced with the additional burden of discerning if "on average" their problem was serious. Additionally, because of the stigma associated with hearing difficulty, some respondents were

less inclined to readily identify themselves as having such a problem. Most significantly, because hearing ability is particularly dependent on circumstances and context, many hearing-impaired respondents were compelled to weigh numerous factors before responding. Therefore, regardless of question wording, reports of hearing ability are based on respondents' personal understanding and experience with hearing difficulty.

## Vision

Tested Versions of the Proposed Vision Question

Round 1: **Do you/Does (insert name) have serious trouble seeing or are you/they blind?**

**Are you/Is (insert name) blind or do you/they have serious trouble seeing even when wearing glasses?**

Round 2: **Is this person blind or do they have serious difficulty seeing even when wearing glasses?**

Round 3: **Are you/Is [insert name] blind or do you/they have difficulty seeing even when wearing glasses?**

Round 4: **Are you/Is [insert name] blind or do you/they have serious difficulty seeing even when wearing glasses?**

Round 5: **Is this person blind or do they have serious difficulty seeing even when wearing glasses?**

### Question Interpretation

Unlike the relatively consistent interpretations in the previous hearing question, interpretations for the Round 1 vision question, specifically of the phrase *serious trouble seeing* (without the wearing glasses clause), varied immensely across respondents. Variation was primarily based on the fact that respondents differed in whether or not they considered the use of corrective lenses. That is, while some respondents did not consider the use of glasses as having a serious condition, other respondents did. This dramatic difference generated responses that were not comparable across respondents. For example, while one respondent answered no when reporting for her mother specifically because she is able to use corrective lenses for all of her daily activities, another respondent, when also reporting for her mother, answered yes specifically because her mother must wear glasses for every daily activity. Similarly, one respondent answered no for herself because she only uses glasses for reading, but yes for her nephew because he requires glasses for all activities.

Additionally, while some respondents considered *serious trouble seeing* as requiring the constant use of glasses in order to function, a few others also included vision problems that required corrective lenses for simply a few activities such as reading or driving. For example, one respondent answered yes for himself because he needs prescription bifocals to read. However,

when answering as a proxy for his girlfriend, he answered no because, as he explained, she uses

non-prescription magnifying glasses to read.

Others who held more conservative interpretations, excluded every eye condition but those which are not correctable with glasses. A few others with particularly conservative interpretations viewed the question as asking about conditions that rendered individuals essentially blind or with extremely impaired vision. One woman, for example, explained "it's when you open your eyes and all you see is black." Consequently, it did not even occur to her to consider her own vision problem which requires her to use glasses throughout the day. Similarly, another respondent explained, "it's when people bump into things and need to use their hands to help guide them," so responded no for his grandmother whose vision is corrected with glasses.

Inclusion of Glasses Clause

Because of the extreme inconsistency of interpretations across respondents, the phrase *even when wearing glasses* was inserted into the question and tested in the remaining six interviews of Round 1 as well as the interviews in Rounds 2 through 5. With the inclusion of the clause, the scope of interpretations narrowed dramatically, and respondents were guided toward more conservative conditions: "like being legally blind," "if a person's corrected vision was not normal," "if a person could not pass the driving vision test with glasses," "if you still squint with glasses on," "not being able to read the newspaper or things that come in the mail," and "cataracts." Additionally, one Census Bureau respondent defined the phrase in terms of the associated stigma including decreased opportunities for work or employability.

With the addition of the clause, then, reports of *serious trouble seeing* corresponded to more severe conditions than previously reported. For example, one respondent explained that he has macular degeneration and cannot read street signs in bright daylight. Another woman stated that her nearsightedness is not completely adjusted with glasses and, consequently, she tires quickly when reading. In fact, with the addition of the clause, two respondents' conservative interpretations may have actually lead to false negative reports. One man, who is legally blind, answered no for his wife but then described her vision as being very bad—even with glasses, she must put reading material two inches from her face. Another respondent reported no for herself though she is blind in one eye and cannot see in three dimensions. She noted that it was difficult deciding how to answer, but in the end responded no because she can see "very well with glasses out of her good eye."

Except for one respondent, no one in the remaining rounds of interviews included vision problems that were correctable with glasses. Despite having eye surgery and not seeing well out of one eye because of a perceptual deficit, for example, one Census Bureau respondent still answered no to the question because her vision is corrected to almost 20/20. Another Census Bureau respondent stated that her son has weakness in one eye and had to wear glasses, but did not respond affirmatively to the question because she did not view the problem as serious. The one exception of a false positive report involved a Census Bureau respondent's 60-year-old mother, who cannot read well without her reading glasses. Though not particularly serious, the

respondent answered yes because "if she depends on them, then they really help her."

Although it does not pertain to the specific design of this question, it should be noted that when the preceding hearing question contained the clause *without the use of a hearing aid*, many respondents mistakenly heard the vision clause as stating *without the use of glasses* (as opposed to *even when wearing glasses*). Consequently, as in the initial version of the vision question, many of these respondents reported conditions that were fully correctable with glasses. When the hearing question was revised, this particular context effect disappeared.

**Question Response Problems**

As in the previous hearing question, ambiguity over the phrase *serious trouble seeing* was the primary source of response difficulty for respondents. This was especially evident when the question did not include the glasses clause. Because many use glasses, numerous respondents struggled to determine whether or not to include vision problems that were fully correctable. For example, one NCHS respondent went back and forth in her mind for several minutes as she tried to determine whether needing glasses to drive or to see a movie would be considered serious trouble seeing.

Although reducing the problem substantially, the clause *even when wearing glasses* did not entirely eliminate the need for respondents to negotiate what they deemed to be an accurate interpretation of *serious trouble seeing*. A few respondents whose vision problems were not entirely corrected continued to struggle in determining whether their problem (even when wearing glasses) was serious. For example, one respondent explained that, even with glasses, his "up close" vision had been worsening over time and that each year he required increased correction. Ultimately, he answered no, determining that (at least for now) his glasses are able to correct his vision to the extent that he can see "good enough."

**Version Recommended for the ACS: Are you blind or do you have serious difficulty seeing even when wearing glasses?**

Like the hearing question, addition of an assistive device clause affected interpretations so that they became much more conservative. Unlike the hearing question, however, it appears that the assistive device clause is necessary for the vision question. Without the clause, interpretations of the question included a dramatic range of conditions (i.e., from "needing glasses to read" to "total blackness") to the extent that comparability between reports was essentially nonexistent. While the assistive device in the hearing question generated interpretations that were far too conservative (thereby producing numerous false negative reports), the assistive device clause in the vision question generates interpretations that are more consistent with the question's intent. Additionally, without the clause, numerous respondents struggled to determine whether fully correctable conditions should be included.

Though respondent burden is greatly reduced with the addition of the clause, those respondents with vision problems that are not entirely corrected remain in the position of having to determine whether their condition should be counted as serious. Because the question is self-report, respondents are left to themselves to decide; how they report will be determined by their own perceptions of their problem and what they consider to be serious. Their responses may (or may not) be consistent with the original intent of the question. To this end, reports are subjective and, consequently, may not be comparable. For example, of the three respondents with blindness in one eye and not limited in the types of activities that they can perform, two answered yes and another answered no. In another situation, a respondent stated that his positive response was due to "almost a night blindness" in one eye that resulted from the respondent's years as a military sniper, which weakened one eye.

Notes

The response problem regarding the word *or* did not occur in the vision question to the degree that it did in the previous hearing question. In responding to the hearing question, respondents became clued in to the fact that the entire set of disability questions appeared in a yes/no format.

As with the previous question, one respondent, a disabled person but not due to vision loss, felt that the term *blind* was offensive and said the APA guidelines suggest using the term "person with visual disability."

## Cognitive Functioning

Tested Versions of the Proposed Vision Question

Round 1: **Because of a physical, mental, or emotional condition, do you /does (insert name) usually have difficulty concentrating remembering, or making decisions?**

**Because of a physical, mental, or emotional condition, do you /does (insert name) usually have difficulty concentrating, learning, or remembering?**

Round 2: **Because of a physical, mental, or emotional condition, does this person usually have difficulty concentrating, remembering, or making decisions?**

**Because of a physical, mental, or emotional condition, does this person usually have difficulty concentrating, learning, or remembering?**

Round 3: **Because of a physical, mental, or emotional condition do you/does [insert name] usually have difficulty concentrating or remembering?**

Round 4: **Because of a physical, mental or emotional problem, do you have serious difficulty concentrating, remembering or making decisions?**

**Because of a physical, mental or emotional problem, do you have serious difficulty learning a new task?**

Round 5: **Because of a physical, mental, or emotional problem, does this person have serious difficulty concentrating, remembering or making decisions?**

**Because of a physical, mental, or emotional problem, does this person have serious difficulty learning a new task?**

### Question Interpretation

For versions of the question incorporating the activities of *concentrating*, *remembering* and *making decisions* (tested in all rounds but Round 3), respondents' interpretations were based primarily upon age and the types of activities they do in their daily life. For example, when answering the question, one woman in her mid-40s considered her ability to "hold on to details" and described her ability to remember shopping lists and getting herself and children to appointments. When answering for herself, she described the question as being a mental health question, specifically, about depression—a condition that would prevent her from performing her daily errands. When answering for her son, however, she interpreted the question as

pertaining to a learning disability and considered his ability to sit long enough to focus on a book or a math equation. Though one older respondent reported having a learning disability, most middle-aged respondents answering yes reported having mental illnesses such as being bipolar, having schizophrenia, or depression. Additionally, one Census Bureau respondent who answered positively to the question explained that he was suffering from "suppressed memories of a childhood trauma." Elderly respondents, on the other hand, tended to consider aspects of memory that were related to the onset of Alzheimer's disease, specifically, remembering directions or names of friends and relatives. In this regard, the question (specifically the question containing the terms *concentrating*, *remembering* and *making decisions*) appeared to capture a wide range of conditions, including mental health problems, learning disabilities and serious age-related problems.

For questions containing multiple activities (i.e., those tested in all rounds but Round 3), respondents generally approached the question in one of two ways: 1) by individually assessing each activity (i.e. *concentrating*, *remembering* and *making decisions*); or 2) by conceptualizing the individual types of activities as one broad, general category. One woman using the latter approach, for example, stated that she saw the question as asking "do you think clearly at all times?" Another man perceived the question as asking, "in a very general way, do you have any mental issues like depression?" As stated previously, many older respondents saw the question as asking about the presence of Alzheimer's disease. For those participants considering the activities separately, most focused almost exclusively on the two activities of *concentrating* and *remembering*, omitting the last activity of making decisions. The activity of c*oncentrating* involved respondents' abilities to focus on reading or paying bills, while definitions of *remembering* ranged from knowing people's names and not losing keys to forgetting major life events. When considered, *making decisions* was not typically discussed in terms of whether or not decisions could be made, but rather the quality of decisions. One woman, for example, focused on her autistic daughter's ability to make safe or sound decisions, such as running a bath without letting the water get too hot. Another respondent focused on the fact that she does not always make "smart decisions," for example, spending too much money.

In Round 3, the question was changed to include only the activities of *concentrating* and *remembering*. In this new version, however, respondents' interpretations were less restrictive than in the previous version, and respondents were much more likely to count relatively trivial memory problems such as forgetting names or misplacing keys. More so with this version, respondents tended to view the question as an aging question. For example, one respondent summarized the question: "Are you beginning to notice that you are getting older?" Numerous respondents laughed out loud when asked this question and commented that they have indeed experienced "senior moments." Additionally, unlike the previous version, a number of respondents grappled for an appropriate answer and struggled to determine whether their age-related memory problem was "serious enough" to provide a yes answer. Though in the previous version many respondents did not account for the activity of *making decisions*, it appears that the mere inclusion of the term in the string of activities impacted respondents' overall interpretation of the question. That is, *concentrating* and *remembering* take on a more critical connotation when linked with *making decisions*.

Asking about the activity of *learning*

In Rounds 1 and 2, an alternate question replacing *making decisions* with the word *learning* was tested in 5 NCHS interviews and 9 Census Bureau interviews. In this version, the word *learning* was interpreted in two distinct ways: 1) having the cognitive ability to perform day-to-day living skills; and 2) gaining academic knowledge. One respondent taking the first approach, for example, described her ability to cook from a recipe. Contrastingly, another respondent taking the second approach considered school participation in his conceptualization of *learning* and explained that this portion of the question did not pertain because "his son is no longer in school."

Although difficult to conclude with the few number of interviews, it appears that more often in the version containing the word *learning*, respondents tended to approach each activity individually (as opposed to combining activities) when arriving at an answer—perhaps because it is more difficult to conceptualize one general, underlying theme from the activities of *concentrating*, *learning* and *remembering*. This is certainly true for respondents who conceptualized *learning* as purely an academic accomplishment; the 3 activities together did not entirely make sense and, as several respondents explained, "should be split into separate questions."

To provide additional insight into the reporting of learning disabilities in children, the following question was tested in Rounds 4 and 5: *Because of a physical, mental or emotional problem, do you have serious difficulty learning a new task?* Interpretations of this new question, however, were broad and varied immensely across respondents. When considering their answers, for example, one respondent thought of learning how to use a computer, another thought of starting a new career, while another thought of learning about how tsunamis formed. Additionally, several respondents indicated that the question was about "being open to new ideas" and "not being stubborn." One woman, answering for herself, considered her own "ability to have a profession in academia," but considered the use of "fine motor skills" and of "expressive language" when answering for her autistic son. Because of the numerous interpretations and the fact that it did not perform any better for children than the previous question, it was recommended that this item be dropped altogether.

Interpretations of the word *usually*

In the original version of the question, the committee incorporated the word *usually* to eliminate the need for longer, more complicated phrases traditionally used in disability questions to denote long-term conditions (e.g., "a health condition lasting six months or more"). In testing, no respondent included a problem associated with a temporary condition; related conditions included mental illnesses, age-related problems and learning disabilities. Instead of the inclusion of temporary conditions, possible response errors associated with the question pertained to the degree of severity associated with memory or concentration problems. That is, some respondents included conditions that were relatively trivial and typical, such as forgetting names

or losing car keys. Additionally, all positive responses to the question were based on currently occurring conditions. One Census Bureau respondent, for example, who had a liver transplant 7 years ago and will need another transplant soon, explained that the most accurate answer is "not yet." He answered no, however, because he does not currently have the difficulty, though he anticipates having the difficulty in the near future.

Although the question as a whole functioned as intended (i.e., respondents included current, long-term conditions), when asked specifically "what does the word *usually* mean to you?," no one stated outright that it implied a long-lasting condition. Instead, respondents reported a range of inconsistent, sometimes curious, explanations. For example, one woman who had no difficulty correctly answering the question stated (when probed) that she believed the word *usually* meant "ever" and restated the question: "Do you ever have a problem with concentrating, learning or remembering?" Another respondent stated that the word was confusing; she interpreted *usually* as meaning "often" but was not sure how often: "Do you mean often or very often?" These odd interpretations more likely indicate that the word *usually* did not contribute additional meaning to the question. Indeed, for the vast majority of cases, respondents were not confused by the word until they were specifically asked to provide a definition of the term. If respondents struggled with the question, it was more about the degree of seriousness, not the degree of time or frequency of the problem. Consequently, in a subsequent version, the word *usually* was replaced with the word *serious* and tested in Rounds 4 and 5.

**Question Response Problems**

Response difficulty for respondents primarily centered around assessing whether their particular limitation was serious enough to report. One woman who was diagnosed with ADD, for example, stated that it was somewhat difficult for her to decide whether or not her condition (which, she reported, impacted her life very little) warranted reporting. She noted that this question, unlike the previous two questions, did not specifically mention the word *serious*, so she ultimately decided that "anything goes" and responded *yes*. A few other respondents were unclear about whether or not they should include age-related memory problems. One man, for example, stated that he would have answered *yes* if the question asked *do you usually have difficulty concentrating, remembering or making decisions because of age?* Because aging is a natural phenomena and not a health condition, he answered *no*. In answering for her elderly mother, another respondent stated that the question was particularly difficult because her mother was only beginning to lose cognitive function. Because she was still able to live independently, the respondent ultimately answered no.

Another difficulty pertained to the use of medication for treating mental illness or learning disabilities. Several respondents, for example, were unsure of whether or not they should assess their problem when using medication. One respondent who reported stress problems explained that since he needs the medication, he should answer yes to the question. Conversely, another respondent who suffers from depression provided a no-answer specifically because his medication allows him to concentrate better.

**Version Recommended for the ACS: Because of a physical, mental or emotional problem, do you have serious difficulty concentrating, remembering or making decisions?**

In order to cue respondents to include only critical, activity-hindering problems, the word *serious* was replaced with the word *usually*. Additionally, the activity of *making decisions* was included with the activities of *concentrating* and *remembering*, not because it added a different dimension of cognitive functioning that needed to be measured, but because the term added to the implication of severity.

## Lower Mobility

Tested Versions of the Proposed Lower Mobility Question

Round 1: **Do you /Does (insert name) usually have difficulty walking or climbing stairs?**

Round 2: **Due to a physical, mental, or emotional condition, does this person usually have difficulty walking or climbing stairs?**

Round 3: **Do you have difficulty walking or climbing stairs without equipment such as a cane, walker or wheelchair?**

Round 4: **Do you have serious difficulty walking or climbing stairs?**

**Do you have difficulty walking or climbing stairs without equipment such as a cane, walker or wheelchair?**

Round 5: **Does this person have serious difficulty walking or climbing stairs?**

### Question Interpretation

For Rounds 1 and 2, respondents primarily considered physical limitation factors such as the amount of pain or the degree of fatigue they experienced when walking or climbing stairs. Though the initial question tested did not mention assistive devices, in forming their answer some respondents considered whether they used a cane, wheelchair, walker or a handrail when climbing stairs. As in the other domain questions, the degree of difficulty considered to be serious varied across respondents, ranging from those who could not walk at all to those who could walk but with a significant degree of pain. Those reporting serious difficulty had a variety of physical conditions including fibromyalgia, difficulties resulting from an accident, old age, knee and ankle problems, rheumatoid arthritis, and being overweight.

When answering for other household members, a few respondents answered outside a physical interpretation of the question. For example, one NCHS respondent who answered yes for herself because of her arthritis, also responded yes for her mother, but explained that her mother has "mood swings" and "does not like to be out and around crowds." Another respondent explained that while his girlfriend is not limited in doing any activities, she is "just physically out of shape." Finally, another NCHS respondent explained that while her daughter can easily run up and down stairs, she is worried that she may fall and hurt herself or her younger brother because she does not have good judgment skills. In these cases, respondents' answers were not so much an assessment of a household member's physical limitations, but about other kinds of concerns.

Long Term vs. Temporary Conditions

As in the cognitive functioning question, the word *usually* was included to prompt respondents to include only long term physical conditions; mobility problems due to temporary injuries or short-term illnesses should not be counted. Unlike the cognitive question, essentially all respondents understood the term as intended (though one Census Bureau respondent who suffers fibromyalgic flares suggested that she was somewhat confused by the term). Difficulty walking and climbing stairs, as opposed to difficulty with cognitive functioning, is more likely to be affected by a temporal condition. Consequently, the term *usually* makes better sense within the context of a mobility question. Neither of the two NCHS respondents who reported household members as having temporary conditions responded affirmatively, suggesting that the word *usually* served its function in these cases. One NCHS respondent whose husband slipped and fell at work did respond positively because, as she explained, his injury occurred over a year ago and though he has had several surgeries (and was scheduled for another the next week), it appeared that his condition was not going to improve in the near future.

It should be noted, however, that one Census Bureau respondent with a torn meniscus responded affirmatively even though, after surgery, he anticipates a full recovery. Although he initially answered no, when the question was repeated, his focus shifted from the word *usually* to the introductory phrase (*due to a physical, mental, or emotional condition.*) Because his torn meniscus was a physical condition, he changed his answer to yes. This error, however, is likely an artifact of the cognitive interview because the question was repeated and the respondent was asked to scrutinize the wording of the question. Another Census Bureau respondent recovering from foot surgery, on the other hand, responded no to the question specifically because she interpreted the question as emphasizing the word *usually*. Though she did not initially focus on the introductory phrase, she stated that she did not need to reconsider her answer because the word *usually* outweighed the reference to a physical condition.

Inclusion of Assistive Device Clause

More than the potential problem of including temporary conditions, the question did not always capture limitations because respondents did not consider their mobility problem serious enough to report. For example, several respondents with clear difficulty walking (to the extent that they used walkers or canes) reported no difficulty because, they explained, the assistive devices grant them mobility. Similarly, one Census Bureau respondent who suffered from a fractured back and, as a result, requires a crutch, cannot bend, and is limited in the amount she can walk, answered no because she "can get by...it's not really a difficulty...because it hasn't stopped me from doing anything."

With the aim of reducing these types of false negative reports, an assistive device clause was added in Round 4: *Do you have difficulty walking or climbing stairs without equipment such as a cane, walker or wheelchair?* As in the hearing question, however, the assistive device clause performed counter to its intention. In a third of the Round 4 interviews, respondents misheard the clause. Many interpreted the question as *Do you use a cane, walker or wheelchair?*

Consequently, those respondents who did not use an assistive device responded no without even considering their mobility status. Because of the negative in the clause (i.e., without equipment), a few others interpreted the question as *Can you walk without the use of a cane, walker or wheelchair?* This interpretation—opposite of the intended question—led to outright response error. For example, when asked the question, one older man answered no and explained that he was forced to retire because he was unable to walk without the use of a cane.

**Question Response Problems**

The greatest difficulty for respondents was determining whether their difficulty was serious enough to report. For example, in attempting to respond, one older respondent asked "to what degree?" He explained that he can easily walk about 50 yards, but then he gets tired. He also stated that, when he uses his walker, he can go "an unlimited distance" and so was not sure how to answer (though, he ultimately answered no). One Census Bureau respondent also interpreted the question as asking about short distances and was thinking about her ability to walk "inside the house." Only if she had been completely unable to walk, she would have easily answered the question as yes-difficulty.

Additionally, a few respondents stated that the question was more difficult when reporting for their elderly parents. Unlike the previous cognitive question, no respondent was unsure as to whether they should account for age in their answer. However, the difficulty was in assessing in the degree of severity and the fact that when people age their abilities gradually decline.

**Version Recommended for the ACS: Do you have difficulty walking of climbing stairs?**

Because of the amount of response error associated with the inclusion of an assistive device clause, it is not recommended. It should be noted, however, that some respondents may provide a response of *no*, not because they do not have difficulty, but because they believe their assistive device grants them full mobility. Additionally, because respondents are less likely to respond positively unless their mobility is severely hindered, the word *serious* is not recommended. Many respondents, especially elderly respondents, are likely to not report a serious problem if they feel that they can get around with a cane or walker. The word *usually* was omitted because it did not add to the question. Especially by this question in the series, respondents understood that this was related to serious long-term conditions.

## Upper Mobility

Tested Versions of the Proposed Vision Question

Round 1: **Do you /Does (insert name) usually have difficulty dressing or bathing?**

**Do you /Does (insert name) usually have difficulty dressing or bathing without the help of another person or assistive device?**

Round 2: **Does this person usually have difficulty dressing or bathing?**

**Does this person usually have difficulty dressing or bathing without the help of another person or assistive device?**

Round 3: **Do you /Does (insert name) have difficulty dressing or bathing?**

Round 4: **Do you /Does (insert name) have difficulty dressing or bathing?**

Round 5: **Does this person have difficulty dressing or bathing?**

### Question Interpretation

In forming a response, many respondents considered the physical aspects involved in bathing and dressing, including the ability to close a zipper or to get in and out of a bathtub. For the most part, the question was interpreted as asking about relatively serious limitations. For example, a few respondents explained that this question pertained to "those people who were bed-ridden" or "needed to be in a wheel chair." A couple of respondents noted that only very sick people would answer yes to the question.

In approximately one-third of the interviews that examined the question *Do you usually have difficulty dressing or bathing*, respondents considered aspects of mental health. For example, one NCHS respondent who answered yes explained that she is afraid of water because she almost drowned several times as a child. Another respondent explained that her nephew has difficulty picking out which clothes to wear and will often choose inappropriate clothes for the season. One Census Bureau respondent reported a yes-answer for her 18-year-old son with Downs Syndrome because he cannot wash his hair adequately to present himself at school or work. Another Census Bureau respondent, who suffers from depression and obsessive compulsive disorder, answered yes because she does "not bathe like normal people when it needs to be done," and explained that she will not take a shower unless she has to go to school or work.

Use of accommodation and assistive devices

A few respondents were not certain if they should account for assistive devices used to facilitate bathing and dressing. For example, one man who had recently installed a seat in the shower and removed the edge of the tub allowing his wife to bathe alone did not know if he should account for the renovation of the bathroom. Ultimately, he included the accommodation into the answer, responding no difficulty. He also explained, however, that if he were asked the question prior to the renovation, the accurate answer would have been yes.

The question was tested with and without the phrase w*ithout the help of another person or assistive device* in approximately half of the Round 1 and 2 interviews. Although it is difficult to make an assessment with so few interviews, no problems were identified because of the additional phrase. However, it does appear that, by comparison, the version with the phrase caused much stricter interpretations and limited reports to only physical limitations. That is, respondents receiving the question which included the accommodation clause were more likely to interpret the question within the dimension of physical disabilities and less likely to include mental or emotional problems.

**Question Response Problems**

Response difficulty primarily centered on respondents' abilities to assess the level of limitation and to decide whether the problem warranted reporting. One woman, for example, who sometimes needed help with a zipper in the back because of arthritis, changed her mind several times. And, in the follow-up discussion, she had forgotten her answer, suggesting that she never was able to settle on a definitive response. Another respondent stated that it was difficult to answer for his wife because, while she is able to bathe and dress by herself, it takes a longer time.

Additionally, some respondents had accommodated so that they did not have a problem. One respondent, for example, explained that since she fell in the shower because of a balance problem, she now only takes baths. Similarly, she changed the kind of clothing that she wears (e.g., not using zippers) so that she does not have any problems dressing.

**Version Recommended for the ACS: Do you have difficulty dressing or bathing?**

Like in the previous mobility question, inclusion of an assistive device clause is not recommended. The clause directs respondents to consider only physical dimensions of dressing and bathing, omitting any mental or emotional problems that may interfere with self-care. It should be noted, however, that some respondents may provide a response of *no*, not because they do not have difficulty, but because they believe some type of accommodation grants them full ability. Additionally, like the previous question, because respondents are less likely to respond positively unless their self-care ability is severely hindered, the word *serious* is not

recommended. Many respondents, especially elderly respondents, are likely to not report a problem if they feel that they can do the activity, regardless of the amount of time needed. The word *usually* was omitted because it did not add to the question; respondents understood that this was related to serious long-term conditions.

## Daily Activities

Tested Versions of the Proposed Daily Activities Question

Round 1: **Do you /Does (insert name) usually have difficulty going outside the home alone to visit a doctor's office or shop?**

Round 2: **Does this person usually have difficulty going outside the home alone to visit a doctor's office or to shop?**

Round 3: **Do you have difficulty doing errands alone such as shopping or visiting a doctor's office?**

Round 4: **Do you have difficulty doing errands alone such as shopping or visiting a doctor's office?**

Round 5: **Does this person have difficulty doing errands alone such as shopping or visiting a doctor's office?**

### Question Interpretation

Responses were based on interpretations of the question that divided, almost equally, across respondents. They include:

1) a question about *emotional restrictions*, such as having agoraphobia or panic around crowds, being afraid of doctors, or being afraid of crime in the neighborhood;
2) a question about *cognitive functioning*, involving the ability to remember directions and safely cross the street;
3) a question about *physical limitations* which prevent individuals from going out of the home without any assistance, for example, being able to open doors or drive a car on one's own; and
4) a question about *access to resources*, for example, not owning a car or having access to public transportation or, as in one case, needing a better electric wheelchair.

Depending on the intent of the question, the possibility of multiple interpretations could be a problem. Importantly, responses may vary, not because individuals' circumstances (including physical limitations) vary, but because the responses are based on different interpretations of the question. For example, the question did not capture all instances of emotional problems that caused difficulties. One respondent with AIDS and depression who also described not being able to go to the doctor because of his mental health problem, answered no because he is still physically able to go to the doctor's office.

Additionally, respondents tended to focus on the first phrase of the question, *going outside the*

*home alone*, rather than the examples of shopping or visiting a doctor's office. Consequently, some respondents incorrectly interpreted the question to include lack of access to transportation resources. A second version of the question, therefore, replaced the phrase *going outside the home alone* with *doing errands alone*.

This new version performed well; there were no identified cases of misinterpretation regarding the question's intent. One Census Bureau respondent, for example, without probing, stated outright that the question pertained to mobility and to mind capacity. Another Census Bureau respondent stated that she was unfamiliar with the word *errand*, though still correctly understood the question because of the provided examples. In comparison to the previous version, respondents were more likely to consider the actual errands that they typically do (as opposed to the listed activities of shopping or going to the doctor's office). For example, interviewed men, whose wives typically do their shopping, described going to Home Depot and the bank as well as getting gas at a gas station.

**Question Response Problems**

Like the majority of previous questions, primary response difficulty centered on respondents determining whether or not their difficulty occurred often enough to report a positive answer. A couple respondents, for example, stated that they only had a problem "some of the time" or "occasionally" and were not certain whether they should answer yes. Additionally, a couple respondents stated that although they could do the activities, they were unsure if they should report a yes-answer because it required them to move very slowly and took them much more time.

**Version Recommended for the ACS: Do you have difficulty doing errands alone such as shopping or visiting a doctor's office?**

## Work

Tested Versions of the Proposed Work Question

Round 1: **Are you/Is (insert name) unable to work at all or are you/is s/he limited in the type of work you/s/he can do or number of hours you/he/she work(s)?**

**Because of a physical, mental or emotional condition, are you/is [name] limited in the amount or type of work you/s/he can do?**

Round 2: **Because of a physical, mental, or emotional condition, is this person limited in the amount or type of work they can do?**

**Because of a physical, mental, or emotional condition, does this person have difficulty performing the kind or amount of work they do at a job or business?**

Round 3: **Because of a physical, mental, or emotional condition are you/is [insert name] limited in the amount or type of work you/s/he can do?**

### Question Interpretation

The concept of work limitations was interpreted extremely broadly by respondents. Although the question asks about limitations due to physical, mental or emotional conditions, respondents also included limitations due to age (high school students are too young to work, senior citizens are too old to work), the health of other family members (a child who needs constant care), access to employment (someone who cannot drive or take public transportation), natural pace of activity (someone who works slowly), and job qualifications (someone who cannot play the violin cannot be in an orchestra). Some of these interpretations may be associated with health conditions, but respondents considered other factors besides health condition in making the assessment about work limitations.

A couple respondents answering for retired household members answered yes, not because of the individuals' limitations but because it was time to retire and "she shouldn't have to work." Another respondent answered yes when reporting for a teenager "because she is in high school." Additionally, two respondents initially answered yes because their child's condition (i.e., their age) limited their ability to work. One respondent changed her answer when the question was repeated with an emphasis on the phrase *because of a physical, mental or emotional condition*. The other respondent, however, did not change her answer, explaining that her daughter's age does, indeed, prevent her from working. Other examples of respondents giving positive responses for reasons that do not involve physical, mental or emotional conditions included issues related to being able to travel to a job and considering jobs for which the respondent was

not skilled.

Another problem derived from interpretation of the term *usuall*y. This question was affected by respondents' temporary injuries, which restrict the ability of a person to conduct their work-related assignments in their injured state. One injured respondent, with a torn meniscus, responded yes to this question initially because he could not perform his job in his injured state while another injured respondent, recovering from foot surgery, responded yes because she recognized this injured state as temporary.

Because of the question length and numerous clauses, many respondents asked to have the question repeated. Additionally, because of the use of the word *or* in the question, one respondents believed that the question format had shifted from a *yes/no* format in previous questions to the format of *select one*. This shift in format in addition to the length of the question, confused the respondent. She ultimately reported no, when the correct response would have been yes.

Finally, because the question does not delineate what is meant by *work*, it is not clear if respondents should consider the type of work that they do (if indeed they do have a particular trade) or <u>all</u> types of work. Responses will vary if respondents are considering manual labor, such as bricklaying, as opposed to office work, where someone may need to sit all day, as opposed to waitressing or cashiering, which requires standing.

To compensate for the problems identified above, an alternative version was tested in 5 interviews of Round 1. Overall, there were dramatic improvements, specifically, no one needed the question repeated. However, different interpretations of work arose: some respondents (primarily those who are retired) answered in terms of general work around the house, for example, repairs, gardening, and housekeeping, while others thought only of their occupations and still others considered both scenarios.

**Question Response Problems**

Many false-positive reports were made because of question misinterpretation. These were in a variety of areas: people who naturally had a slow pace of working, people with temporary injuries, and people who considered jobs for which they were not qualified. In addition, there was an inconsistency between respondents' reports of work limitation and their official disability status. In some cases, respondents were not working because they were classified as disabled and receiving disability payments, even though they said they were not limited. In others, working respondents applied for disability status to allow them to survive after their physical condition deteriorated to the point when they could no longer work.

**Version Recommended for the ACS:** Due to the excessive extent of misinterpretation and misreporting in this question, it is recommended that the question be deleted from the field test.

**Appendix C-1a: Disability Item Nonresponse Rates, Control vs Test**

| Questionnaire Item | Ages | Control | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 5+ | ------- | 3.0% | ------- | ------- | ------- |
| Vision disability | 5+ | ------- | 3.2% | ------- | ------- | ------- |
| Sensory disability* | 5+ | 5.1% | 3.2% | -1.9% | 0.6% | Yes |
| Mobility disability | 5+ | 5.7% | 4.4% | -1.4% | 0.6% | Yes |
| Cognitive disability | 5+ | 4.8% | 4.0% | -0.8% | 0.6% | Yes |
| Self-care disability | 5+ | 5.4% | 4.3% | -1.0% | 0.6% | Yes |
| Independent Living disability | 15+ | 5.4% | 4.3% | -1.1% | 0.6% | Yes |
| Employment disability | 15+ | 6.7% | ------- | ------- | ------- | ------- |
| Any disability question | 5+ | 3.9% | 2.7% | -1.2% | 0.5% | Yes |
| All disability questions | 5+ | 6.5% | 5.0% | -1.5% | 0.6% | Yes |

**Appendix C-1b: Disability Item Nonresponse Rates, Control vs Test (High Response Area)**

| Questionnaire Item | Ages | Control | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 5+ | ------- | 2.7% | ------- | ------- | ------- |
| Vision disability | 5+ | ------- | 2.9% | ------- | ------- | ------- |
| Sensory disability* | 5+ | 5.1% | 2.9% | -2.2% | 0.7% | Yes |
| Mobility disability | 5+ | 5.7% | 4.1% | -1.7% | 0.7% | Yes |
| Cognitive disability | 5+ | 4.8% | 3.7% | -1.1% | 0.7% | Yes |
| Self-care disability | 5+ | 5.3% | 4.0% | -1.3% | 0.7% | Yes |
| Independent Living disability | 15+ | 5.4% | 4.0% | -1.4% | 0.7% | Yes |
| Employment disability | 15+ | 6.8% | ------- | ------- | ------- | ------- |
| Any disability question | 5+ | 3.9% | 2.4% | -1.4% | 0.6% | Yes |
| All disability questions | 5+ | 6.5% | 4.7% | -1.8% | 0.7% | Yes |

**Appendix C-1c: Disability Item Nonresponse Rates, Control vs Test (Low Response Area)**

| Questionnaire Item | Ages | Control | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 5+ | ------- | 4.0% | ------- | ------- | ------- |
| Vision disability | 5+ | ------- | 4.2% | ------- | ------- | ------- |
| Sensory disability* | 5+ | 5.3% | 4.2% | -1.1% | 0.7% | Yes |
| Mobility disability | 5+ | 5.7% | 5.4% | -0.3% | 0.7% | No |
| Cognitive disability | 5+ | 4.9% | 5.2% | 0.2% | 0.7% | No |
| Self-care disability | 5+ | 5.4% | 5.3% | -0.1% | 0.7% | No |
| Independent Living disability | 15+ | 5.4% | 5.1% | -0.3% | 0.6% | No |
| Employment disability | 15+ | 6.5% | ------- | ------- | ------- | ------- |
| Any disability question | 5+ | 4.0% | 3.7% | -0.3% | 0.7% | No |
| All disability questions | 5+ | 6.3% | 6.0% | -0.4% | 0.8% | No |

* For test version, sensory disability combines hearing and vision disabilities to produce this measure

**Appendix C-2a: Disability Status, Control vs Test**

| Questionnaire Item | Ages | Contol | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 0-4 | ------ | 0.2% | ------ | ------ | ------ |
| Vision disability | 0-4 | ------ | 0.2% | ------ | ------ | ------ |
| Hearing disability | 5+ | ------ | 3.9% | ------ | ------ | ------ |
| Vision disability | 5+ | ------ | 2.5% | ------ | ------ | ------ |
| Sensory disability* | 5+ | 3.8% | 5.6% | 1.7% | ± 0.6% | Yes |
| Mobility disability | 5+ | 9.4% | 6.9% | -2.5% | ± 0.7% | Yes |
| Cognitive disability | 5+ | 4.9% | 4.9% | 0.0% | ± 0.6% | No |
| Self-care disability | 5+ | 3.2% | 2.3% | -0.9% | ± 0.4% | Yes |
| Independent Living disability | 15+ | 5.1% | 5.1% | 0.1% | ± 0.6% | No |
| Employment disability | 15+ | 9.6% | ------ | ------ | ------ | ------ |
| Any disability question | 5+ | 14.1% | 13.2% | -0.9% | ± 1.0% | No |

**Appendix C-2b: Disability Status, Control vs Test (High Response Areas)**

| Questionnaire Item | Ages | Contol | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 0-4 | ------ | 0.1% | ------ | ------ | ------ |
| Vision disability | 0-4 | ------ | 0.1% | ------ | ------ | ------ |
| Hearing disability | 5+ | ------ | 4.2% | ------ | ------ | ------ |
| Vision disability | 5+ | ------ | 2.3% | ------ | ------ | ------ |
| Sensory disability* | 5+ | 3.7% | 5.6% | 1.9% | ± 0.7% | Yes |
| Mobility disability | 5+ | 9.2% | 6.5% | -2.8% | ± 0.9% | Yes |
| Cognitive disability | 5+ | 4.7% | 4.8% | 0.2% | ± 0.7% | No |
| Self-care disability | 5+ | 3.2% | 2.2% | -1.0% | ± 0.5% | Yes |
| Independent Living disability | 15+ | 4.9% | 4.8% | -0.1% | ± 0.7% | No |
| Employment disability | 15+ | 9.4% | ------ | ------ | ------ | ------ |
| Any disability question | 5+ | 13.8% | 12.9% | -0.9% | ± 1.2% | No |

**Appendix C-2c: Disability Status, Control vs Test (Low Response Areas)**

| Questionnaire Item | Ages | Contol | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 0-4 | ------ | 0.3% | ------ | ------ | ------ |
| Vision disability | 0-4 | ------ | 0.4% | ------ | ------ | ------ |
| Hearing disability | 5+ | ------ | 3.0% | ------ | ------ | ------ |
| Vision disability | 5+ | ------ | 3.3% | ------ | ------ | ------ |
| Sensory disability* | 5+ | 4.1% | 5.3% | 1.2% | ± 0.7% | Yes |
| Mobility disability | 5+ | 9.9% | 8.3% | -1.7% | ± 0.9% | Yes |
| Cognitive disability | 5+ | 5.9% | 5.1% | -0.7% | ± 0.8% | No |
| Self-care disability | 5+ | 3.3% | 2.6% | -0.7% | ± 0.5% | Yes |
| Independent Living disability | 15+ | 5.6% | 6.3% | 0.7% | ± 0.8% | No |
| Employment disability | 15+ | 10.2% | ------ | ------ | ------ | ------ |
| Any disability question | 5+ | 15.3% | 14.3% | -1.0% | ± 1.2% | No |

* For test version, sensory disability combines hearing and vision disabilities to produce this measure

**Appendix C-2d: Disability Status, Control vs Test (5-14 years old)**

| Questionnaire Item | Ages | Contol | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 5-14 | ------ | 1.0% | ------ | ------ | ------ |
| Vision disability | 5-14 | ------ | 1.4% | ------ | ------ | ------ |
| Sensory disability* | 5-14 | 0.9% | 2.0% | 1.0% | ± 0.9% | Yes |
| Mobility disability | 5-14 | 1.3% | 1.0% | -0.3% | ± 0.8% | No |
| Cognitive disability | 5-14 | 4.4% | 4.4% | 0.0% | ± 1.4% | No |
| Self-care disability | 5-14 | 1.0% | 1.0% | 0.0% | ± 0.6% | No |
| Any disability question | 5-14 | 5.8% | 6.3% | 0.5% | ± 1.8% | No |

**Appendix C-2e: Disability Status, Control vs Test (15-64 years old)**

| Questionnaire Item | Ages | Contol | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 15-64 | ------ | 2.5% | ------ | ------ | ------ |
| Vision disability | 15-64 | ------ | 1.8% | ------ | ------ | ------ |
| Sensory disability* | 15-64 | 2.4% | 3.8% | 1.4% | ± 0.6% | Yes |
| Mobility disability | 15-64 | 7.5% | 5.2% | -2.3% | ± 0.8% | Yes |
| Cognitive disability | 15-64 | 4.1% | 4.1% | 0.1% | ± 0.7% | No |
| Self-care disability | 15-64 | 2.4% | 1.7% | -0.7% | ± 0.5% | Yes |
| Independent Living disability | 15-64 | 2.9% | 3.4% | 0.5% | ± 0.6% | No |
| Employment disability | 15-64 | 7.2% | ------ | ------ | ------ | ------ |
| Any disability question | 15-64 | 11.1% | 10.2% | -0.8% | ± 1.0% | No |

**Appendix C-2f: Disability Status, Control vs Test (65+ years old)**

| Questionnaire Item | Ages | Contol | Test | Difference | Margin of Error | Significant |
|---|---|---|---|---|---|---|
| Hearing disability | 65+ | ------ | 14.7% | ------ | ------ | ------ |
| Vision disability | 65+ | ------ | 7.7% | ------ | ------ | ------ |
| Sensory disability* | 65+ | 14.7% | 18.7% | 4.0% | ± 2.7% | Yes |
| Mobility disability | 65+ | 29.2% | 23.0% | -6.2% | ± 2.7% | Yes |
| Cognitive disability | 65+ | 10.3% | 9.5% | -0.8% | ± 2.3% | No |
| Self-care disability | 65+ | 10.2% | 7.2% | -3.0% | ± 1.7% | Yes |
| Independent Living disability | 65+ | 16.9% | 14.6% | -2.4% | ± 2.2% | Yes |
| Employment disability | 65+ | 23.6% | ------ | ------ | ------ | ------ |
| Any disability question | 65+ | 40.4% | 37.1% | -3.3% | ± 3.5% | No |

* For test version, sensory disability combines hearing and vision disabilities to produce this measure

**Appendix C-3a: Disability Status Statistics, Control vs. Followup**

| Questionnaire Item | Ages | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: No | Control: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Sensory disability | 5+ | 2.9% | 3.5% | 1.0% | 92.6% | 100.0% |
| Physical disability | 5+ | 7.4% | 3.9% | 2.1% | 86.7% | 100.0% |
| Cognitive disability | 5+ | 3.5% | 2.9% | 1.3% | 92.3% | 100.0% |
| Self-care disability | 5+ | 2.0% | 1.4% | 1.2% | 95.4% | 100.0% |
| Independent Living disability | 15+ | 3.6% | 2.0% | 1.7% | 92.7% | 100.0% |
| Employment disability | 15+ | 7.0% | 2.9% | 2.5% | 87.6% | 100.0% |
| Any disability question | 5+ | 13.6% | 6.4% | 2.8% | 77.1% | 100.0% |

**Appendix C-3b: Disability Status Statistics, Control vs. Followup (High Response Area)**

| Questionnaire Item | Ages | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: No | Control: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Sensory disability | 5+ | 2.9% | 3.4% | 0.9% | 92.9% | 100.0% |
| Physical disability | 5+ | 7.1% | 3.8% | 2.0% | 87.1% | 100.0% |
| Cognitive disability | 5+ | 3.3% | 2.5% | 1.1% | 93.1% | 100.0% |
| Self-care disability | 5+ | 2.0% | 1.3% | 1.1% | 95.6% | 100.0% |
| Independent Living disability | 15+ | 3.5% | 1.8% | 1.6% | 93.0% | 100.0% |
| Employment disability | 15+ | 6.8% | 2.8% | 2.4% | 88.0% | 100.0% |
| Any disability question | 5+ | 13.2% | 6.2% | 2.6% | 78.0% | 100.0% |

**Appendix C-3c: Disability Status Statistics, Control vs. Followup (Low Response Area)**

| Questionnaire Item | Ages | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: No | Control: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Sensory disability | 5+ | 3.1% | 3.9% | 1.4% | 91.6% | 100.0% |
| Physical disability | 5+ | 8.2% | 4.3% | 2.5% | 85.1% | 100.0% |
| Cognitive disability | 5+ | 4.1% | 4.5% | 1.7% | 89.7% | 100.0% |
| Self-care disability | 5+ | 2.0% | 1.8% | 1.4% | 94.7% | 100.0% |
| Independent Living disability | 15+ | 3.8% | 2.9% | 2.0% | 91.3% | 100.0% |
| Employment disability | 15+ | 8.0% | 3.4% | 2.8% | 85.9% | 100.0% |
| Any disability question | 5+ | 15.3% | 7.3% | 3.9% | 73.5% | 100.0% |

**Appendix C-3d: Disability Status Statistics, Control vs. Followup (5-14 years old)**

| Questionnaire Item | Ages | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: No | Control: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Sensory disability | 5-14 | 0.9% | 1.3% | 0.3% | 97.5% | 100.0% |
| Physical disability | 5-14 | 0.7% | 1.2% | 0.2% | 97.8% | 100.0% |
| Cognitive disability | 5-14 | 3.5% | 3.1% | 0.7% | 92.7% | 100.0% |
| Self-care disability | 5-14 | 0.8% | 0.2% | 0.1% | 98.9% | 100.0% |
| Any disability question | 5-14 | 4.6% | 4.9% | 1.0% | 89.4% | 100.0% |

**Appendix C-3e: Disability Status Statistics, Control vs. Followup (15-64 Years Old)**

| Questionnaire Item | Ages | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: No | Control: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Sensory disability | 15-64 | 1.8% | 2.7% | 0.6% | 94.9% | 100.0% |
| Physical disability | 15-64 | 5.7% | 3.0% | 1.8% | 89.6% | 100.0% |
| Cognitive disability | 15-64 | 2.8% | 2.3% | 1.1% | 93.8% | 100.0% |
| Self-care disability | 15-64 | 1.4% | 1.2% | 1.0% | 96.4% | 100.0% |
| Independent Living disability | 15-64 | 2.1% | 1.3% | 1.0% | 95.6% | 100.0% |
| Employment disability | 15-64 | 5.4% | 1.6% | 1.6% | 91.4% | 100.0% |
| Any disability question | 15-64 | 9.0% | 5.1% | 2.2% | 83.7% | 100.0% |

**Appendix C-3f: Disability Status Statistics, Control vs. Followup (65+ Years Old)**

| Questionnaire Item | Ages | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: No | Control: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Sensory disability | 65+ | 11.0% | 9.9% | 3.7% | 75.4% | 100.0% |
| Physical disability | 65+ | 23.0% | 11.1% | 5.8% | 60.1% | 100.0% |
| Cognitive disability | 65+ | 6.8% | 6.1% | 2.8% | 84.3% | 100.0% |
| Self-care disability | 65+ | 5.9% | 3.8% | 3.6% | 86.7% | 100.0% |
| Independent Living disability | 65+ | 11.3% | 5.8% | 5.2% | 77.7% | 100.0% |
| Employment disability | 65+ | 15.9% | 10.0% | 7.4% | 66.7% | 100.0% |
| Any disability question | 65+ | 34.5% | 13.7% | 5.5% | 46.3% | 100.0% |

**Appendix C-4a: Disability Status Statistics, Test vs. Followup**

| Questionnaire Item | Ages | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: No | Test: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Hearing disability | 0-4 | 0.2% | 0.2% | 0.0% | 99.5% | 100.0% |
| Vision disability | 0-4 | 0.1% | 0.2% | 0.2% | 99.5% | 100.0% |
| Hearing disability | 5+ | 3.0% | 1.9% | 1.1% | 94.0% | 100.0% |
| Vision disability | 5+ | 1.2% | 1.7% | 1.2% | 95.8% | 100.0% |
| Mobility disability | 5+ | 5.4% | 3.2% | 1.5% | 89.9% | 100.0% |
| Cognitive disability | 5+ | 3.4% | 2.4% | 1.5% | 92.6% | 100.0% |
| Self-care disability | 5+ | 1.4% | 1.0% | 0.8% | 96.8% | 100.0% |
| Independent Living disability | 15+ | 3.5% | 1.6% | 1.9% | 93.0% | 100.0% |
| Any disability question | 5+ | 10.5% | 5.3% | 3.0% | 81.2% | 100.0% |

**Appendix C-4b: Disability Status Statistics, Test vs. Followup (High Response Area)**

| Questionnaire Item | Ages | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: No | Test: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Hearing disability | 0-4 | 0.2% | 0.2% | 0.0% | 99.6% | 100.0% |
| Vision disability | 0-4 | 0.1% | 0.1% | 0.1% | 99.7% | 100.0% |
| Hearing disability | 5+ | 3.2% | 1.9% | 1.2% | 93.8% | 100.0% |
| Vision disability | 5+ | 1.1% | 1.5% | 1.0% | 96.4% | 100.0% |
| Mobility disability | 5+ | 5.0% | 3.1% | 1.3% | 90.7% | 100.0% |
| Cognitive disability | 5+ | 3.3% | 2.0% | 1.5% | 93.2% | 100.0% |
| Self-care disability | 5+ | 1.3% | 0.8% | 0.7% | 97.1% | 100.0% |
| Independent Living disability | 15+ | 3.3% | 1.3% | 1.9% | 93.6% | 100.0% |
| Any disability question | 5+ | 10.1% | 4.8% | 2.8% | 82.4% | 100.0% |

**Appendix C-4c: Disability Status Statistics, Test vs. Followup (Low Response Area)**

| Questionnaire Item | Ages | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: No | Test: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Hearing disability | 0-4 | 0.2% | 0.2% | 0.0% | 99.6% | 100.0% |
| Vision disability | 0-4 | 0.1% | 0.1% | 0.1% | 99.7% | 100.0% |
| Hearing disability | 5+ | 2.3% | 2.1% | 1.0% | 94.6% | 100.0% |
| Vision disability | 5+ | 1.6% | 2.6% | 2.0% | 93.7% | 100.0% |
| Mobility disability | 5+ | 6.9% | 3.7% | 2.1% | 87.3% | 100.0% |
| Cognitive disability | 5+ | 3.7% | 4.1% | 1.7% | 90.6% | 100.0% |
| Self-care disability | 5+ | 1.8% | 1.6% | 1.1% | 95.5% | 100.0% |
| Independent Living disability | 15+ | 4.5% | 2.8% | 2.1% | 90.6% | 100.0% |
| Any disability question | 5+ | 12.0% | 7.2% | 3.7% | 77.1% | 100.0% |

**Appendix C-4d: Disability Status Statistics, Test vs. Followup (5-14 years old)**

| Questionnaire Item | Ages | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: No | Test: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Hearing disability | 5-14 | 0.7% | 0.6% | 0.1% | 98.6% | 100.0% |
| Vision disability | 5-14 | 0.7% | 1.1% | 0.7% | 97.5% | 100.0% |
| Mobility disability | 5-14 | 1.0% | 0.3% | 0.1% | 98.7% | 100.0% |
| Cognitive disability | 5-14 | 3.1% | 3.5% | 0.9% | 92.5% | 100.0% |
| Self-care disability | 5-14 | 0.8% | 0.2% | 0.2% | 98.9% | 100.0% |
| Any disability question | 5-14 | 4.4% | 4.6% | 1.5% | 89.4% | 100.0% |

**Appendix C-4e: Disability Status Statistics, Test vs. Followup (15-64 years old)**

| Questionnaire Item | Ages | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: No | Test: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Hearing disability | 15-64 | 1.7% | 1.3% | 0.9% | 96.1% | 100.0% |
| Vision disability | 15-64 | 0.6% | 1.5% | 1.1% | 96.9% | 100.0% |
| Mobility disability | 15-64 | 4.0% | 2.6% | 1.2% | 92.2% | 100.0% |
| Cognitive disability | 15-64 | 3.0% | 1.9% | 1.3% | 93.8% | 100.0% |
| Self-care disability | 15-64 | 1.0% | 0.8% | 0.6% | 97.5% | 100.0% |
| Independent Living disability | 15-64 | 2.3% | 1.3% | 1.3% | 95.0% | 100.0% |
| Any disability question | 15-64 | 7.9% | 4.4% | 2.5% | 85.2% | 100.0% |

**Appendix C-4f: Disability Status Statistics, Test vs. Followup (65+ years old)**

| Questionnaire Item | Ages | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: No | Test: No Followup: No | Total |
|---|---|---|---|---|---|---|
| Hearing disability | 65+ | 11.4% | 6.1% | 3.5% | 79.0% | 100.0% |
| Vision disability | 65+ | 4.7% | 3.5% | 2.5% | 89.2% | 100.0% |
| Mobility disability | 65+ | 16.7% | 8.9% | 4.6% | 69.8% | 100.0% |
| Cognitive disability | 65+ | 5.9% | 3.7% | 3.3% | 87.1% | 100.0% |
| Self-care disability | 65+ | 4.2% | 2.5% | 2.4% | 90.9% | 100.0% |
| Independent Living disability | 65+ | 9.6% | 2.9% | 4.8% | 82.7% | 100.0% |
| Any disability question | 65+ | 29.6% | 10.1% | 7.0% | 53.3% | 100.0% |

**Appendix C-5a: Disability Status Statistical Comparison, Control vs Test**

| Questionnaire Item | Net Difference Rate | | | | | Adjusted Simple Response Variance | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Control | Test | Diff | Margin of Error | Signif | Control | Test | Diff | Margin of Error | Signif |
| Hearing disability** | 2.5 | 0.8 | -1.7 | ± 0.5 | Yes | 3.3 | 2.4 | -0.9 | ± 0.3 | Yes |
| Vision disability** | 2.5 | 0.5 | -2.0 | ± 0.5 | Yes | 3.3 | 1.9 | -1.4 | ± 0.3 | Yes |
| Sensory disability | 2.5 | 1.2 | -1.3 | ± 0.6 | Yes | 3.3 | 3.7 | 0.4 | ± 0.3 | Yes |
| Mobility disability** | 1.8 | 1.7 | -0.1 | ± 0.6 | No | 4.6 | 3.7 | -0.9 | ± 0.5 | Yes |
| Cognitive disability | 1.7 | 0.9 | -0.8 | ± 0.6 | Yes | 3.1 | 2.9 | -0.2 | ± 0.3 | No |
| Dressing/Bathing disability** | 0.2 | 0.1 | 0.0 | ± 0.5 | No | 1.9 | 1.3 | -0.6 | ± 0.3 | Yes |
| Independent living disability | 0.3 | 0.3 | 0.0 | ± 0.7 | No | 2.8 | 2.7 | -0.1 | ± 0.3 | No |
| Any disability question | 3.8 | 2.3 | -1.5 | ± 0.8 | Yes | 6.8 | 6.4 | -0.4 | ± 0.6 | No |

**Appendix C-5b: Disability Status Statistical Comparison, Control vs Test (High Response Area)**

| Questionnaire Item | Net Difference Rate | | | | | Adjusted Simple Response Variance | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Control | Test | Diff | Margin of Error | Signif | Control | Test | Diff | Margin of Error | Signif |
| Sensory disability | 2.5 | 1.1 | -1.4 | ± 0.7 | Yes | 3.2 | 3.5 | 0.3 | ± 0.4 | No |
| Mobility disability | 1.7 | 1.7 | 0.0 | ± 0.8 | No | 4.5 | 3.5 | -1.0 | ± 0.6 | Yes |
| Cognitive disability | 1.4 | 0.4 | -0.9 | ± 0.7 | Yes | 2.8 | 2.7 | -0.1 | ± 0.4 | No |
| Dressing/Bathing disability | 0.1 | 0.0 | -0.1 | ± 0.6 | No | 1.8 | 1.2 | -0.6 | ± 0.3 | Yes |
| Independent living disability | 0.2 | 0.6 | 0.4 | ± 0.8 | No | 2.1 | 1.9 | -0.2 | ± 0.4 | No |
| Any disability question | 3.8 | 2.0 | -1.8 | ± 1.0 | Yes | 6.5 | 5.9 | -0.6 | ± 0.7 | No |

**Appendix C-5c: Disability Status Statistical Comparison, Control vs Test (Low Response Area)**

| Questionnaire Item | Net Difference Rate | | | | | Adjusted Simple Response Variance | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Control | Test | Diff | Margin of Error | Signif | Control | Test | Diff | Margin of Error | Signif |
| Sensory disability | 2.5 | 1.9 | -0.6 | ± 1.1 | No | 3.7 | 4.3 | 0.6 | ± 0.5 | Yes |
| Mobility disability | 1.8 | 1.6 | -0.2 | ± 0.9 | No | 5.0 | 4.4 | -0.6 | ± 0.6 | Yes |
| Cognitive disability | 2.8 | 2.4 | -0.4 | ± 1.0 | No | 4.4 | 4.0 | -0.4 | ± 0.6 | No |
| Dressing/Bathing disability | 0.4 | 0.5 | 0.2 | ± 0.7 | No | 2.2 | 1.9 | -0.3 | ± 0.4 | No |
| Independent living disability | 0.9 | 0.7 | -0.2 | ± 0.9 | No | 2.7 | 2.8 | 0.1 | ± 0.4 | No |
| Any disability question | 4.1 | 3.5 | -0.5 | ± 1.5 | No | 7.9 | 7.9 | 0.0 | ± 0.8 | No |

**Appendix C-5d: Disability Status Statistical Comparison, Control vs Test (5-14 years old)**

| Questionnaire Item | Net Difference Rate | | | | | Adjusted Simple Response Variance | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Control | Test | Diff | Margin of Error | Signif | Control | Test | Diff | Margin of Error | Signif |
| Sensory disability | 1.0 | 0.9 | -0.1 | ± 1.0 | No | 1.2 | 1.5 | 0.4 | ± 0.6 | No |
| Mobility disability | 1.0 | 0.2 | -0.8 | ± 0.7 | Yes | 1.1 | 0.3 | -0.8 | ± 0.6 | Yes |
| Cognitive disability | 2.3 | 2.5 | 0.2 | ± 1.5 | No | 3.0 | 3.3 | 0.3 | ± 1.0 | No |
| Dressing/Bathing disability | 0.1 | 0.0 | -0.1 | ± 0.3 | No | 0.3 | 0.3 | 0.0 | ± 0.2 | No |
| Any disability question | 3.9 | 3.1 | -0.8 | ± 1.8 | No | 4.6 | 4.5 | -0.1 | ± 1.2 | No |

**Appendix C-5e: Disability Status Statistical Comparison, Control vs Test (15-64 years old)**

| Questionnaire Item | Net Difference Rate | | | | | Adjusted Simple Response Variance | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Control | Test | Diff | Margin of Error | Signif | Control | Test | Diff | Margin of Error | Signif |
| Sensory disability | 2.1 | 0.9 | -1.2 | ± 0.6 | Yes | 2.4 | 2.8 | 0.3 | ± 0.3 | No |
| Mobility disability | 1.2 | 1.5 | 0.2 | ± 0.7 | No | 3.7 | 3.0 | -0.7 | ± 0.5 | Yes |
| Cognitive disability | 1.2 | 0.6 | -0.6 | ± 0.6 | Yes | 2.5 | 2.5 | -0.1 | ± 0.4 | No |
| Dressing/Bathing disability | 0.2 | 0.2 | 0.0 | ± 0.5 | No | 1.5 | 1.1 | -0.5 | ± 0.3 | Yes |
| Independent living disability | 0.3 | 0.0 | -0.3 | ± 0.5 | No | 1.8 | 2.0 | 0.3 | ± 0.3 | No |
| Any disability question | 3.0 | 2.0 | -1.0 | ± 0.8 | Yes | 5.7 | 5.3 | -0.3 | ± 0.6 | No |

**Appendix C-5f: Disability Status Statistical Comparison, Control vs Test (65+ years old)**

| Questionnaire Item | Net Difference Rate | | | | | Adjusted Simple Response Variance | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Control | Test | Diff | Margin of Error | Signif | Control | Test | Diff | Margin of Error | Signif |
| Sensory disability | 6.2 | 3.3 | -2.9 | ± 2.6 | Yes | 9.4 | 9.8 | 0.4 | ± 1.2 | No |
| Mobility disability | 5.3 | 4.4 | -0.9 | ± 2.6 | No | 11.8 | 10.0 | -1.8 | ± 1.6 | Yes |
| Cognitive disability | 3.3 | 0.5 | -2.8 | ± 2.2 | Yes | 6.3 | 5.0 | -1.3 | ± 1.2 | Yes |
| Dressing/Bathing disability | 0.3 | 0.1 | -0.1 | ± 1.6 | No | 5.1 | 3.5 | -1.6 | ± 1.0 | Yes |
| Independent living disability | 0.5 | 1.9 | 1.4 | ± 2.4 | No | 13.8 | 12.4 | -1.4 | ± 1.5 | No |
| Any disability question | 8.2 | 3.2 | -5.0 | ± 3.0 | Yes | 7.7 | 5.8 | -1.9 | ± 1.3 | Yes |

**Appendix C-6a: Presence of Hearing Condition vs Answers to Detailed Questions, Control**

| Hearing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 35.8% | 19.1% | 29.4% | 17.2% | 10.8% | 0.5% |
| No | 64.2% | 80.9% | 70.6% | 82.8% | 89.2% | 99.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 1.4% | 5.0% | 1.3% | 4.4% | 1.0% | 23.5% |
| A little difficult | 6.5% | 17.1% | 6.8% | 16.0% | 9.4% | 23.1% |
| Somewhat difficult | 19.0% | 25.9% | 20.1% | 26.5% | 30.4% | 40.3% |
| Very Difficult | 46.9% | 39.7% | 46.5% | 40.2% | 42.9% | 11.9% |
| Can't hear / deaf | 26.2% | 12.3% | 25.3% | 12.9% | 16.2% | 1.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 17.2% | 35.5% | 17.7% | 33.5% | 22.2% | 38.3% |
| A little difficult | 38.6% | 29.7% | 38.6% | 31.1% | 39.2% | 41.8% |
| Somewhat difficult | 18.5% | 21.3% | 19.8% | 22.9% | 32.8% | 13.1% |
| Very Difficult | 23.1% | 8.6% | 21.5% | 8.2% | 5.8% | 6.9% |
| Can't hear / deaf | 2.7% | 5.0% | 2.4% | 4.3% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 38.9% | 40.6% | 41.3% | 41.9% | 46.3% | 85.2% |
| A little difficult | 11.5% | 18.1% | 15.4% | 19.5% | 23.7% | 9.7% |
| Somewhat difficult | 28.2% | 28.1% | 26.5% | 26.8% | 22.9% | 4.5% |
| Very Difficult | 17.1% | 12.2% | 13.8% | 10.9% | 7.0% | 0.5% |
| Can't hear / deaf | 4.3% | 1.1% | 3.0% | 0.8% | 0.1% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-6b: Presence of Hearing Condition vs Answers to Detailed Questions, Control (5-14)**

| Hearing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 10.2% | 0.0% | 7.7% | 0.0% | 0.0% | 0.0% |
| No | 89.8% | 100.0% | 92.3% | 100.0% | 100.0% | 100.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 0.0% | --- | 0.0% | --- | --- | 72.4% |
| A little difficult | 0.0% | --- | 0.0% | --- | --- | 27.6% |
| Somewhat difficult | 41.7% | --- | 41.7% | --- | --- | 0.0% |
| Very Difficult | 58.3% | --- | 58.3% | --- | --- | 0.0% |
| Can't hear / deaf | 0.0% | --- | 0.0% | --- | --- | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 73.5% | --- | 73.5% | --- | --- | 0.0% |
| A little difficult | 17.7% | --- | 17.7% | --- | --- | 100.0% |
| Somewhat difficult | 8.8% | --- | 8.8% | --- | --- | 0.0% |
| Very Difficult | 0.0% | --- | 0.0% | --- | --- | 0.0% |
| Can't hear / deaf | 0.0% | --- | 0.0% | --- | --- | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 23.1% | 80.1% | 39.5% | 80.4% | 81.6% | 95.8% |
| A little difficult | 0.0% | 10.1% | 3.1% | 10.3% | 11.2% | 3.4% |
| Somewhat difficult | 57.9% | 3.5% | 43.7% | 4.2% | 7.3% | 0.7% |
| Very Difficult | 8.0% | 6.3% | 5.8% | 5.2% | 0.0% | 0.1% |
| Can't hear / deaf | 11.0% | 0.0% | 7.9% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-6c: Presence of Hearing Condition vs Answers to Detailed Questions, Control (15-64)**

| Hearing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 30.0% | 9.9% | 23.1% | 8.6% | 3.2% | 0.2% |
| No | 70.0% | 90.1% | 76.9% | 91.4% | 96.8% | 99.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 53.5% |
| A little difficult | 0.6% | 2.6% | 1.8% | 4.9% | 34.8% | 20.5% |
| Somewhat difficult | 23.7% | 25.5% | 23.1% | 24.2% | 7.6% | 20.5% |
| Very Difficult | 43.4% | 61.6% | 43.6% | 60.8% | 50.0% | 1.0% |
| Can't hear / deaf | 32.4% | 10.3% | 31.5% | 10.1% | 7.6% | 4.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 17.0% | 27.0% | 18.0% | 28.1% | 42.4% | 58.2% |
| A little difficult | 60.1% | 32.9% | 58.2% | 31.1% | 7.6% | 19.8% |
| Somewhat difficult | 11.5% | 34.0% | 12.9% | 35.1% | 50.0% | 0.0% |
| Very Difficult | 11.0% | 4.4% | 10.6% | 4.1% | 0.0% | 22.0% |
| Can't hear / deaf | 0.3% | 1.8% | 0.3% | 1.6% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 39.2% | 41.3% | 39.6% | 41.1% | 40.5% | 85.5% |
| A little difficult | 10.6% | 17.8% | 16.1% | 19.8% | 27.5% | 9.6% |
| Somewhat difficult | 30.6% | 29.2% | 28.6% | 28.3% | 24.5% | 4.2% |
| Very Difficult | 15.2% | 11.3% | 12.7% | 10.5% | 7.5% | 0.5% |
| Can't hear / deaf | 4.5% | 0.4% | 3.0% | 0.3% | 0.0% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-6d: Presence of Hearing Condition vs Answers to Detailed Questions, Control (65+)**

| Hearing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 42.8% | 34.7% | 36.6% | 30.2% | 18.3% | 3.1% |
| No | 57.2% | 65.3% | 63.4% | 69.8% | 81.7% | 96.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 2.2% | 7.0% | 2.1% | 6.0% | 1.2% | 12.3% |
| A little difficult | 10.2% | 23.0% | 9.6% | 20.1% | 5.5% | 24.0% |
| Somewhat difficult | 15.7% | 26.0% | 18.0% | 27.4% | 34.0% | 47.7% |
| Very Difficult | 48.7% | 30.8% | 47.9% | 32.6% | 41.8% | 15.9% |
| Can't hear / deaf | 23.1% | 13.2% | 22.4% | 13.9% | 17.6% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 16.2% | 39.2% | 16.5% | 35.7% | 19.0% | 34.7% |
| A little difficult | 25.8% | 28.3% | 28.1% | 31.1% | 44.2% | 45.7% |
| Somewhat difficult | 22.9% | 15.6% | 23.8% | 18.1% | 30.0% | 15.5% |
| Very Difficult | 31.0% | 10.4% | 27.9% | 9.8% | 6.7% | 4.1% |
| Can't hear / deaf | 4.2% | 6.5% | 3.6% | 5.3% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 40.6% | 31.0% | 43.3% | 36.7% | 49.0% | 69.0% |
| A little difficult | 13.8% | 20.4% | 16.1% | 20.5% | 20.9% | 18.6% |
| Somewhat difficult | 22.1% | 30.9% | 22.4% | 28.3% | 22.9% | 11.2% |
| Very Difficult | 20.2% | 15.1% | 15.9% | 12.5% | 7.0% | 1.1% |
| Can't hear / deaf | 3.3% | 2.7% | 2.3% | 1.9% | 0.3% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-7a: Presence of Hearing Condition vs Answers to Detailed Questions, Test**

| Hearing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 49.2% | 19.0% | 39.9% | 17.6% | 15.4% | 0.4% |
| No | 50.8% | 81.0% | 60.1% | 82.4% | 84.6% | 99.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 1.3% | 0.3% | 1.4% | 1.2% | 2.9% | 13.4% |
| A little difficult | 5.9% | 24.7% | 8.4% | 26.1% | 28.9% | 33.7% |
| Somewhat difficult | 22.0% | 27.4% | 21.8% | 24.9% | 19.8% | 45.0% |
| Very Difficult | 46.4% | 43.1% | 43.5% | 35.4% | 19.8% | 7.6% |
| Can't hear / deaf | 24.4% | 4.6% | 24.9% | 12.5% | 28.7% | 0.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 25.4% | 47.4% | 29.2% | 51.9% | 61.3% | 58.0% |
| A little difficult | 29.6% | 15.9% | 28.8% | 17.9% | 22.0% | 24.2% |
| Somewhat difficult | 27.4% | 21.4% | 25.6% | 18.0% | 10.8% | 16.2% |
| Very Difficult | 14.0% | 15.3% | 13.1% | 12.3% | 5.9% | 1.5% |
| Can't hear / deaf | 3.7% | 0.0% | 3.3% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 6.3% | 19.1% | 22.8% | 30.1% | 47.7% | 85.9% |
| A little difficult | 21.3% | 17.2% | 22.3% | 19.8% | 24.0% | 9.4% |
| Somewhat difficult | 32.4% | 37.7% | 26.3% | 29.8% | 17.1% | 4.1% |
| Very Difficult | 35.0% | 19.2% | 25.5% | 16.1% | 11.2% | 0.6% |
| Can't hear / deaf | 5.1% | 6.8% | 3.1% | 4.2% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-7b: Presence of Hearing Condition vs Answers to Detailed Questions, Test (5-14)**

| Hearing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 58.2% | 5.4% | 50.3% | 4.6% | 0.0% | 0.0% |
| No | 41.8% | 94.6% | 49.7% | 95.4% | 100.0% | 100.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 0.0% | 0.0% | 0.0% | 0.0% | ---------- | ---------- |
| A little difficult | 16.7% | 0.0% | 16.7% | 0.0% | ---------- | ---------- |
| Somewhat difficult | 0.0% | 100.0% | 0.0% | 100.0% | ---------- | ---------- |
| Very Difficult | 18.3% | 0.0% | 18.3% | 0.0% | ---------- | ---------- |
| Can't hear / deaf | 65.0% | 0.0% | 65.0% | 0.0% | ---------- | ---------- |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 0.0% | 0.0% | 0.0% | 0.0% | ---------- | ---------- |
| A little difficult | 90.8% | 0.0% | 90.8% | 0.0% | ---------- | ---------- |
| Somewhat difficult | 9.2% | 100.0% | 9.2% | 100.0% | ---------- | ---------- |
| Very Difficult | 0.0% | 0.0% | 0.0% | 0.0% | ---------- | ---------- |
| Can't hear / deaf | 0.0% | 0.0% | 0.0% | 0.0% | ---------- | ---------- |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 0.0% | 64.6% | 25.1% | 69.3% | 92.4% | 96.0% |
| A little difficult | 94.3% | 18.3% | 70.8% | 16.5% | 7.6% | 3.0% |
| Somewhat difficult | 5.7% | 10.1% | 4.1% | 8.4% | 0.0% | 0.7% |
| Very Difficult | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.3% |
| Can't hear / deaf | 0.0% | 7.0% | 0.0% | 5.8% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-7c: Presence of Hearing Condition vs Answers to Detailed Questions, Test (15-64)**

| Hearing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 30.6% | 12.2% | 21.9% | 9.2% | 4.6% | 0.1% |
| No | 69.4% | 87.8% | 78.1% | 90.8% | 95.4% | 99.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 15.5% |
| A little difficult | 1.3% | 22.6% | 2.5% | 21.7% | 17.6% | 49.1% |
| Somewhat difficult | 15.6% | 36.4% | 17.5% | 37.7% | 43.1% | 28.9% |
| Very Difficult | 65.0% | 36.6% | 61.9% | 33.7% | 21.6% | 6.5% |
| Can't hear / deaf | 18.1% | 4.3% | 18.0% | 7.0% | 17.6% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 15.9% | 53.7% | 18.8% | 54.4% | 56.9% | 67.2% |
| A little difficult | 29.0% | 23.6% | 30.0% | 27.5% | 43.1% | 20.2% |
| Somewhat difficult | 39.9% | 18.3% | 37.1% | 14.7% | 0.0% | 12.5% |
| Very Difficult | 9.3% | 4.3% | 8.6% | 3.5% | 0.0% | 0.0% |
| Can't hear / deaf | 6.0% | 0.0% | 5.6% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 5.9% | 17.3% | 25.6% | 32.0% | 52.7% | 86.1% |
| A little difficult | 17.7% | 17.6% | 18.3% | 18.3% | 19.2% | 9.1% |
| Somewhat difficult | 37.7% | 35.7% | 28.4% | 27.4% | 15.6% | 4.3% |
| Very Difficult | 31.5% | 18.6% | 23.5% | 16.0% | 12.5% | 0.5% |
| Can't hear / deaf | 7.2% | 10.8% | 4.2% | 6.3% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-7d: Presence of Hearing Condition vs Answers to Detailed Questions, Test (65+)**

| Hearing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use a hearing aid? | | | | | | |
| Yes | 62.4% | 27.5% | 54.6% | 28.0% | 28.8% | 2.5% |
| No | 37.6% | 72.5% | 45.4% | 72.0% | 71.2% | 97.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing without hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 1.8% | 0.5% | 2.0% | 1.6% | 3.4% | 12.7% |
| A little difficult | 7.0% | 26.1% | 10.0% | 28.0% | 31.1% | 28.5% |
| Somewhat difficult | 25.5% | 21.6% | 24.2% | 19.2% | 15.2% | 50.4% |
| Very Difficult | 41.1% | 47.0% | 38.4% | 36.4% | 19.4% | 8.0% |
| Can't hear / deaf | 24.6% | 4.7% | 25.3% | 14.8% | 30.8% | 0.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing with hearing aid (if the person wears a hearing aid) | | | | | | |
| Not difficult | 30.3% | 45.1% | 34.3% | 51.5% | 62.2% | 55.1% |
| A little difficult | 26.4% | 12.4% | 25.3% | 14.4% | 17.7% | 25.5% |
| Somewhat difficult | 23.7% | 21.5% | 22.4% | 18.3% | 13.0% | 17.4% |
| Very Difficult | 16.5% | 21.0% | 15.3% | 15.8% | 7.1% | 2.0% |
| Can't hear / deaf | 3.1% | 0.0% | 2.7% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty hearing (if the person does not wear a hearing aid) | | | | | | |
| Not difficult | 7.1% | 16.2% | 18.6% | 24.1% | 37.9% | 72.6% |
| A little difficult | 21.2% | 16.6% | 25.4% | 22.3% | 32.4% | 19.2% |
| Somewhat difficult | 27.0% | 43.5% | 24.4% | 35.0% | 20.1% | 6.7% |
| Very Difficult | 41.9% | 22.2% | 29.8% | 17.7% | 9.7% | 1.3% |
| Can't hear / deaf | 2.8% | 1.5% | 1.7% | 1.0% | 0.0% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-8a: Presence of Visual Condition vs Answers to Detailed Questions, Control**

| Visual Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 77.5% | 84.5% | 76.5% | 82.1% | 73.5% | 54.3% |
| No | 22.5% | 15.5% | 23.5% | 17.9% | 26.5% | 45.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 14.5% | 13.8% | 14.4% | 13.9% | 14.4% | 29.7% |
| A little difficult | 12.0% | 14.7% | 17.5% | 18.7% | 35.1% | 23.1% |
| Somewhat difficult | 16.4% | 22.7% | 16.9% | 21.8% | 18.6% | 21.9% |
| Very difficult | 33.4% | 32.6% | 30.1% | 30.1% | 19.9% | 19.5% |
| Can't see / blind | 23.8% | 16.2% | 21.0% | 15.4% | 12.0% | 5.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 37.8% | 40.5% | 42.9% | 44.2% | 59.0% | 49.1% |
| A little difficult | 11.6% | 12.4% | 11.8% | 12.4% | 12.5% | 15.8% |
| Somewhat difficult | 17.4% | 17.1% | 14.8% | 15.0% | 6.6% | 16.2% |
| Very difficult | 19.5% | 18.1% | 18.7% | 17.7% | 16.5% | 14.8% |
| Can't see / blind | 13.7% | 11.9% | 11.7% | 10.6% | 5.5% | 4.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 49.9% | 73.0% | 54.9% | 72.5% | 70.6% | 89.6% |
| A little difficult | 22.5% | 15.3% | 21.7% | 16.1% | 19.1% | 6.9% |
| Somewhat difficult | 11.6% | 7.8% | 10.1% | 7.4% | 5.5% | 2.3% |
| Very difficult | 8.2% | 3.2% | 7.3% | 3.5% | 4.8% | 1.1% |
| Can't see / blind | 7.9% | 0.7% | 6.0% | 0.5% | 0.0% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 48.7% | 76.8% | 52.7% | 75.9% | 71.2% | 92.9% |
| A little difficult | 21.1% | 14.1% | 20.3% | 14.5% | 16.6% | 4.8% |
| Somewhat difficult | 8.4% | 5.1% | 7.9% | 5.2% | 5.7% | 1.5% |
| Very difficult | 10.3% | 3.0% | 9.6% | 3.5% | 6.1% | 0.7% |
| Can't see / blind | 11.5% | 1.0% | 9.5% | 0.9% | 0.4% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 34.1% | 49.1% | 40.0% | 50.8% | 54.3% | 89.7% |
| A little difficult | 15.7% | 24.1% | 17.5% | 23.4% | 21.8% | 7.0% |
| Somewhat difficult | 16.1% | 13.2% | 12.9% | 10.5% | 5.0% | 2.2% |
| Very difficult | 9.7% | 10.3% | 12.2% | 13.0% | 18.4% | 0.9% |
| Can't see / blind | 24.3% | 3.2% | 17.4% | 2.3% | 0.4% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 53.4% | 82.6% | 61.7% | 82.3% | 81.6% | 97.6% |
| A little difficult | 3.3% | 6.8% | 7.2% | 10.0% | 16.6% | 1.5% |
| Somewhat difficult | 10.5% | 2.4% | 7.5% | 1.8% | 0.4% | 0.6% |
| Very difficult | 6.4% | 4.0% | 4.8% | 3.0% | 0.9% | 0.3% |
| Can't see / blind | 26.5% | 4.2% | 18.8% | 3.0% | 0.4% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-8b: Presence of Visual Condition vs Answers to Detailed Questions, Control (5-14)**

| Visual Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 24.9% | 75.5% | 30.5% | 70.2% | 47.1% | 20.4% |
| No | 75.1% | 24.5% | 69.5% | 29.8% | 52.9% | 79.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 26.5% | 37.7% | 22.7% | 35.0% | 16.5% | 41.5% |
| A little difficult | 10.9% | 24.7% | 23.0% | 27.0% | 42.2% | 32.8% |
| Somewhat difficult | 51.7% | 23.3% | 47.7% | 25.6% | 41.2% | 18.5% |
| Very difficult | 10.9% | 10.4% | 6.7% | 9.0% | 0.0% | 6.6% |
| Can't see / blind | 0.0% | 3.9% | 0.0% | 3.4% | 0.0% | 0.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 30.1% | 41.4% | 41.2% | 43.6% | 58.8% | 47.3% |
| A little difficult | 3.6% | 19.9% | 18.1% | 22.5% | 41.2% | 25.8% |
| Somewhat difficult | 51.7% | 12.0% | 31.7% | 10.5% | 0.0% | 15.5% |
| Very difficult | 14.5% | 22.9% | 8.9% | 20.1% | 0.0% | 8.7% |
| Can't see / blind | 0.0% | 3.8% | 0.0% | 3.3% | 0.0% | 2.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 95.1% | 81.6% | 97.1% | 84.5% | 100.0% | 88.1% |
| A little difficult | 0.0% | 15.8% | 0.0% | 13.3% | 0.0% | 11.7% |
| Somewhat difficult | 0.0% | 1.3% | 0.0% | 1.1% | 0.0% | 0.2% |
| Very difficult | 4.9% | 1.3% | 2.9% | 1.1% | 0.0% | 0.0% |
| Can't see / blind | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 94.8% | 75.8% | 96.2% | 78.0% | 100.0% | 97.0% |
| A little difficult | 0.0% | 16.3% | 0.0% | 14.8% | 0.0% | 2.4% |
| Somewhat difficult | 0.0% | 7.8% | 0.0% | 7.1% | 0.0% | 0.1% |
| Very difficult | 5.2% | 0.0% | 3.8% | 0.0% | 0.0% | 0.5% |
| Can't see / blind | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 83.2% | 72.7% | 85.5% | 80.0% | 94.9% | 97.8% |
| A little difficult | 5.5% | 0.0% | 4.5% | 0.0% | 0.0% | 1.4% |
| Somewhat difficult | 5.5% | 0.0% | 4.5% | 0.0% | 0.0% | 0.6% |
| Very difficult | 0.0% | 27.3% | 1.0% | 20.0% | 5.1% | 0.2% |
| Can't see / blind | 5.7% | 0.0% | 4.6% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 88.8% | 100.0% | 89.0% | 96.6% | 89.7% | 99.1% |
| A little difficult | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.5% |
| Somewhat difficult | 5.5% | 0.0% | 5.5% | 1.7% | 5.1% | 0.4% |
| Very difficult | 0.0% | 0.0% | 1.0% | 1.7% | 5.1% | 0.0% |
| Can't see / blind | 5.7% | 0.0% | 4.6% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-8c: Presence of Visual Condition vs Answers to Detailed Questions, Control (15-64)**

| Visual Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 72.7% | 81.6% | 71.8% | 79.3% | 69.4% | 55.5% |
| No | 27.3% | 18.4% | 28.2% | 20.7% | 30.6% | 44.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 16.5% | 13.3% | 16.2% | 13.5% | 14.9% | 31.6% |
| A little difficult | 5.7% | 16.3% | 10.5% | 17.8% | 25.3% | 22.2% |
| Somewhat difficult | 14.6% | 20.3% | 16.2% | 20.4% | 21.3% | 21.4% |
| Very difficult | 43.0% | 31.1% | 37.1% | 29.1% | 19.0% | 19.6% |
| Can't see / blind | 20.2% | 19.1% | 20.0% | 19.1% | 19.4% | 5.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 34.4% | 36.4% | 38.2% | 38.7% | 50.2% | 44.4% |
| A little difficult | 11.5% | 10.3% | 10.7% | 10.0% | 8.2% | 16.0% |
| Somewhat difficult | 18.4% | 17.1% | 15.8% | 15.6% | 7.9% | 17.7% |
| Very difficult | 19.1% | 22.3% | 20.8% | 22.9% | 26.1% | 17.3% |
| Can't see / blind | 16.6% | 13.9% | 14.4% | 12.9% | 7.6% | 4.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 45.9% | 73.5% | 52.6% | 73.3% | 71.9% | 90.4% |
| A little difficult | 28.2% | 15.9% | 26.6% | 16.9% | 21.9% | 6.3% |
| Somewhat difficult | 13.4% | 7.8% | 11.0% | 7.2% | 4.2% | 2.2% |
| Very difficult | 6.6% | 2.5% | 5.4% | 2.4% | 1.9% | 0.9% |
| Can't see / blind | 5.9% | 0.4% | 4.4% | 0.3% | 0.0% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 52.7% | 79.3% | 57.9% | 79.1% | 77.7% | 94.0% |
| A little difficult | 13.5% | 13.4% | 14.5% | 14.1% | 18.4% | 4.2% |
| Somewhat difficult | 10.9% | 4.7% | 9.5% | 4.6% | 3.9% | 1.3% |
| Very difficult | 14.5% | 2.1% | 11.5% | 1.8% | 0.0% | 0.5% |
| Can't see / blind | 8.3% | 0.5% | 6.6% | 0.5% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 31.7% | 42.1% | 40.4% | 47.8% | 62.6% | 87.4% |
| A little difficult | 24.6% | 29.9% | 27.2% | 31.0% | 33.7% | 8.6% |
| Somewhat difficult | 17.1% | 17.4% | 13.3% | 13.6% | 3.7% | 2.7% |
| Very difficult | 8.1% | 8.4% | 5.8% | 6.1% | 0.0% | 1.1% |
| Can't see / blind | 18.6% | 2.2% | 13.4% | 1.6% | 0.0% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 50.5% | 83.4% | 65.4% | 87.8% | 99.2% | 97.2% |
| A little difficult | 6.1% | 8.0% | 4.2% | 5.8% | 0.0% | 1.8% |
| Somewhat difficult | 13.7% | 1.6% | 9.5% | 1.1% | 0.0% | 0.7% |
| Very difficult | 6.0% | 6.0% | 4.4% | 4.5% | 0.8% | 0.3% |
| Can't see / blind | 23.7% | 1.1% | 16.4% | 0.8% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-8d: Presence of Visual Condition vs Answers to Detailed Questions, Control (65+)**

| Visual Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Y/N | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 86.0% | 89.9% | 84.3% | 87.0% | 79.3% | 90.4% |
| No | 14.0% | 10.1% | 15.7% | 13.0% | 20.7% | 9.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 12.7% | 12.0% | 12.9% | 12.4% | 13.8% | 18.5% |
| A little difficult | 16.5% | 11.3% | 22.5% | 19.0% | 42.3% | 24.1% |
| Somewhat difficult | 16.9% | 25.8% | 16.5% | 23.2% | 15.3% | 25.0% |
| Very difficult | 27.0% | 37.2% | 25.7% | 33.3% | 21.6% | 22.7% |
| Can't see / blind | 27.0% | 13.8% | 22.3% | 12.1% | 6.9% | 9.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 40.5% | 45.9% | 46.5% | 50.9% | 65.9% | 69.0% |
| A little difficult | 11.9% | 14.3% | 12.5% | 14.3% | 14.4% | 12.1% |
| Somewhat difficult | 15.9% | 17.7% | 13.5% | 14.8% | 5.9% | 10.3% |
| Very difficult | 19.8% | 11.9% | 17.5% | 11.3% | 9.8% | 6.0% |
| Can't see / blind | 11.9% | 10.2% | 10.0% | 8.7% | 4.1% | 2.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 51.6% | 71.6% | 55.4% | 70.7% | 68.1% | 87.1% |
| A little difficult | 19.1% | 14.6% | 18.8% | 15.4% | 17.8% | 7.7% |
| Somewhat difficult | 10.6% | 8.5% | 9.7% | 8.1% | 6.7% | 3.2% |
| Very difficult | 9.3% | 4.3% | 8.9% | 5.0% | 7.4% | 1.7% |
| Can't see / blind | 9.4% | 1.1% | 7.3% | 0.8% | 0.0% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 44.2% | 73.0% | 46.9% | 71.2% | 62.1% | 83.3% |
| A little difficult | 27.8% | 14.9% | 25.9% | 15.0% | 15.5% | 10.9% |
| Somewhat difficult | 6.6% | 5.5% | 6.8% | 6.0% | 8.2% | 3.7% |
| Very difficult | 7.1% | 4.8% | 8.1% | 6.3% | 13.4% | 1.9% |
| Can't see / blind | 14.3% | 1.7% | 12.2% | 1.6% | 0.8% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 16.4% | 60.3% | 22.8% | 49.3% | 35.3% | 74.4% |
| A little difficult | 5.2% | 16.4% | 7.1% | 13.9% | 10.8% | 16.2% |
| Somewhat difficult | 19.2% | 6.3% | 15.4% | 6.9% | 7.8% | 6.8% |
| Very difficult | 16.9% | 10.1% | 26.4% | 25.5% | 45.1% | 2.0% |
| Can't see / blind | 42.3% | 7.0% | 28.4% | 4.4% | 1.0% | 0.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 42.2% | 74.4% | 46.6% | 66.3% | 55.9% | 94.5% |
| A little difficult | 0.5% | 5.7% | 14.2% | 22.0% | 43.0% | 4.0% |
| Somewhat difficult | 7.7% | 5.7% | 5.2% | 3.2% | 0.0% | 1.4% |
| Very difficult | 9.8% | 0.0% | 6.6% | 0.0% | 0.0% | 0.1% |
| Can't see / blind | 39.8% | 14.3% | 27.3% | 8.5% | 1.1% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-9a: Presence of Visual Condition vs Answers to Detailed Questions, Test**

| Visual Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 73.6% | 87.3% | 78.1% | 85.4% | 82.8% | 56.7% |
| No | 26.4% | 12.7% | 21.9% | 14.6% | 17.2% | 43.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 6.3% | 8.0% | 9.0% | 9.4% | 11.6% | 28.3% |
| A little difficult | 3.2% | 14.5% | 13.9% | 18.3% | 24.1% | 24.0% |
| Somewhat difficult | 16.3% | 18.7% | 17.9% | 18.9% | 19.4% | 23.5% |
| Very difficult | 35.2% | 32.7% | 27.7% | 28.0% | 20.5% | 19.1% |
| Can't see / blind | 39.0% | 26.0% | 31.5% | 25.4% | 24.4% | 5.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 14.2% | 29.0% | 30.8% | 35.6% | 45.5% | 52.6% |
| A little difficult | 12.7% | 13.1% | 15.0% | 14.6% | 17.0% | 15.4% |
| Somewhat difficult | 11.0% | 18.8% | 14.4% | 18.3% | 17.4% | 15.1% |
| Very difficult | 26.4% | 22.4% | 18.6% | 18.2% | 11.9% | 13.0% |
| Can't see / blind | 35.8% | 16.7% | 21.1% | 13.3% | 8.2% | 3.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 16.4% | 48.8% | 41.8% | 55.9% | 67.2% | 90.7% |
| A little difficult | 28.0% | 21.6% | 23.9% | 20.9% | 19.9% | 6.3% |
| Somewhat difficult | 21.9% | 21.4% | 13.8% | 15.4% | 5.7% | 2.3% |
| Very difficult | 26.3% | 7.7% | 16.4% | 7.2% | 6.5% | 0.6% |
| Can't see / blind | 7.4% | 0.5% | 4.1% | 0.6% | 0.7% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 25.2% | 47.4% | 39.0% | 50.9% | 57.6% | 91.0% |
| A little difficult | 24.6% | 22.9% | 23.0% | 22.2% | 20.8% | 5.8% |
| Somewhat difficult | 17.1% | 18.1% | 17.3% | 17.9% | 17.5% | 2.3% |
| Very difficult | 14.5% | 6.3% | 9.7% | 5.3% | 3.3% | 0.8% |
| Can't see / blind | 18.6% | 5.3% | 11.1% | 3.8% | 0.9% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 17.8% | 16.5% | 30.2% | 33.0% | 49.7% | 90.2% |
| A little difficult | 1.5% | 16.2% | 10.8% | 20.7% | 25.4% | 6.5% |
| Somewhat difficult | 1.7% | 22.9% | 9.0% | 21.7% | 20.4% | 2.4% |
| Very difficult | 17.3% | 15.7% | 12.3% | 10.2% | 4.5% | 0.7% |
| Can't see / blind | 61.7% | 28.7% | 37.8% | 14.5% | 0.0% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 23.7% | 45.7% | 44.4% | 59.9% | 74.9% | 97.9% |
| A little difficult | 0.7% | 14.4% | 2.5% | 9.9% | 5.0% | 1.6% |
| Somewhat difficult | 0.7% | 14.3% | 7.9% | 16.3% | 18.5% | 0.5% |
| Very difficult | 9.3% | 6.3% | 6.2% | 4.0% | 1.6% | 0.0% |
| Can't see / blind | 65.6% | 19.4% | 39.1% | 9.9% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-9b: Presence of Visual Condition vs Answers to Detailed Questions, Test (5-14)**

| Visual Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 85.0% | 88.4% | 78.8% | 82.6% | 72.6% | 20.0% |
| No | 15.0% | 11.6% | 21.2% | 17.4% | 27.4% | 80.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 0.0% | 7.7% | 9.1% | 11.6% | 19.7% | 43.3% |
| A little difficult | 0.0% | 8.0% | 3.5% | 7.9% | 7.6% | 33.0% |
| Somewhat difficult | 8.0% | 49.7% | 31.7% | 52.8% | 59.3% | 19.0% |
| Very difficult | 45.7% | 28.2% | 30.8% | 23.4% | 13.5% | 4.2% |
| Can't see / blind | 46.3% | 6.4% | 24.9% | 4.3% | 0.0% | 0.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 0.0% | 15.4% | 53.1% | 39.9% | 90.7% | 47.9% |
| A little difficult | 0.0% | 37.7% | 5.4% | 28.5% | 9.3% | 21.8% |
| Somewhat difficult | 0.0% | 22.3% | 0.0% | 15.1% | 0.0% | 21.1% |
| Very difficult | 23.9% | 5.8% | 9.9% | 3.9% | 0.0% | 7.9% |
| Can't see / blind | 76.1% | 18.8% | 31.6% | 12.7% | 0.0% | 1.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 6.5% | 55.1% | 44.7% | 68.3% | 100.0% | 96.8% |
| A little difficult | 47.8% | 12.7% | 28.3% | 8.9% | 0.0% | 3.0% |
| Somewhat difficult | 39.2% | 32.3% | 23.2% | 22.7% | 0.0% | 0.1% |
| Very difficult | 6.5% | 0.0% | 3.9% | 0.0% | 0.0% | 0.1% |
| Can't see / blind | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 0.0% | 50.3% | 11.6% | 52.8% | 100.0% | 93.0% |
| A little difficult | 86.9% | 41.1% | 76.8% | 39.0% | 0.0% | 3.9% |
| Somewhat difficult | 13.1% | 4.3% | 11.6% | 4.1% | 0.0% | 2.8% |
| Very difficult | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.4% |
| Can't see / blind | 0.0% | 4.3% | 0.0% | 4.1% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 0.0% | 87.5% | 56.3% | 87.2% | 87.0% | 98.4% |
| A little difficult | 0.0% | 0.0% | 8.4% | 7.6% | 13.0% | 1.4% |
| Somewhat difficult | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Very difficult | 0.0% | 12.5% | 0.0% | 5.2% | 0.0% | 0.1% |
| Can't see / blind | 100.0% | 0.0% | 35.3% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 0.0% | 93.8% | 56.3% | 89.8% | 87.0% | 99.3% |
| A little difficult | 0.0% | 6.2% | 0.0% | 2.6% | 0.0% | 0.6% |
| Somewhat difficult | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% |
| Very difficult | 0.0% | 0.0% | 8.4% | 7.6% | 13.0% | 0.0% |
| Can't see / blind | 100.0% | 0.0% | 35.3% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-9c: Presence of Visual Condition vs Answers to Detailed Questions, Test (15-64)**

| Visual Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 69.6% | 85.3% | 74.6% | 82.1% | 77.7% | 57.7% |
| No | 30.4% | 14.7% | 25.4% | 17.9% | 22.3% | 42.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 2.3% | 8.1% | 9.9% | 10.5% | 14.2% | 30.0% |
| A little difficult | 1.4% | 16.1% | 15.4% | 18.9% | 23.2% | 23.3% |
| Somewhat difficult | 22.3% | 14.0% | 15.6% | 13.2% | 11.9% | 22.6% |
| Very difficult | 43.1% | 32.1% | 28.0% | 27.2% | 19.6% | 19.3% |
| Can't see / blind | 31.0% | 29.7% | 31.1% | 30.3% | 31.1% | 4.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 11.7% | 26.2% | 21.7% | 26.6% | 27.3% | 47.7% |
| A little difficult | 6.5% | 10.0% | 16.8% | 14.9% | 22.6% | 16.0% |
| Somewhat difficult | 14.9% | 22.4% | 20.3% | 22.8% | 23.3% | 16.5% |
| Very difficult | 34.9% | 23.8% | 21.5% | 19.9% | 13.9% | 15.2% |
| Can't see / blind | 32.1% | 17.5% | 19.8% | 15.7% | 12.9% | 4.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 27.2% | 48.5% | 47.8% | 53.1% | 60.7% | 91.1% |
| A little difficult | 35.1% | 22.0% | 28.9% | 23.2% | 25.1% | 6.2% |
| Somewhat difficult | 21.0% | 21.2% | 11.3% | 15.1% | 5.1% | 2.1% |
| Very difficult | 9.5% | 8.0% | 9.1% | 8.3% | 8.9% | 0.6% |
| Can't see / blind | 7.2% | 0.3% | 2.9% | 0.3% | 0.2% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 22.3% | 47.4% | 44.6% | 52.1% | 59.2% | 92.2% |
| A little difficult | 32.7% | 19.6% | 26.6% | 20.8% | 22.5% | 5.1% |
| Somewhat difficult | 32.6% | 21.1% | 21.5% | 18.4% | 14.3% | 1.8% |
| Very difficult | 9.1% | 6.1% | 5.9% | 5.2% | 3.9% | 0.8% |
| Can't see / blind | 3.4% | 5.8% | 1.3% | 3.5% | 0.0% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 38.7% | 11.5% | 40.0% | 27.2% | 41.1% | 88.5% |
| A little difficult | 3.6% | 19.0% | 17.3% | 24.2% | 28.7% | 7.6% |
| Somewhat difficult | 4.0% | 30.6% | 15.5% | 27.7% | 25.2% | 2.7% |
| Very difficult | 6.0% | 19.4% | 5.4% | 11.7% | 5.0% | 0.9% |
| Can't see / blind | 47.8% | 19.5% | 21.8% | 9.1% | 0.0% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 49.0% | 49.3% | 61.3% | 60.9% | 71.6% | 97.7% |
| A little difficult | 0.8% | 16.4% | 3.4% | 10.8% | 5.6% | 1.7% |
| Somewhat difficult | 0.8% | 18.2% | 12.8% | 20.6% | 22.8% | 0.6% |
| Very difficult | 8.0% | 8.1% | 3.6% | 3.9% | 0.0% | 0.0% |
| Can't see / blind | 41.4% | 7.9% | 18.8% | 3.8% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-9d: Presence of Visual Condition vs Answers to Detailed Questions, Test (65+)**

| Visual Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Y/N | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use glasses or contacts? | | | | | | |
| Yes | 74.8% | 91.0% | 82.1% | 93.1% | 96.0% | 89.2% |
| No | 25.2% | 9.0% | 17.9% | 6.9% | 4.0% | 10.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 9.8% | 8.1% | 8.0% | 6.9% | 5.1% | 19.0% |
| A little difficult | 4.8% | 13.3% | 14.1% | 19.8% | 29.3% | 24.4% |
| Somewhat difficult | 13.7% | 18.5% | 18.0% | 21.1% | 24.8% | 27.9% |
| Very difficult | 28.7% | 35.4% | 26.8% | 30.6% | 23.8% | 21.6% |
| Can't see / blind | 43.0% | 24.7% | 33.1% | 21.6% | 17.0% | 7.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street without glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 17.1% | 38.7% | 37.6% | 50.9% | 66.9% | 70.9% |
| A little difficult | 17.9% | 11.5% | 14.3% | 10.5% | 9.1% | 11.9% |
| Somewhat difficult | 9.4% | 10.6% | 10.1% | 10.8% | 11.1% | 9.0% |
| Very difficult | 21.1% | 24.6% | 16.8% | 18.6% | 10.8% | 6.7% |
| Can't see / blind | 34.4% | 14.6% | 21.1% | 9.2% | 2.1% | 1.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 10.6% | 47.5% | 34.9% | 57.7% | 72.2% | 88.7% |
| A little difficult | 19.7% | 23.4% | 17.7% | 19.8% | 14.8% | 7.2% |
| Somewhat difficult | 19.6% | 18.5% | 14.8% | 14.0% | 7.6% | 3.3% |
| Very difficult | 41.3% | 9.4% | 26.5% | 7.0% | 3.8% | 0.7% |
| Can't see / blind | 8.8% | 1.2% | 6.0% | 1.4% | 1.7% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street with glasses (if the person wears glasses or contacts) | | | | | | |
| Not difficult | 30.0% | 46.1% | 34.1% | 46.9% | 49.0% | 83.2% |
| A little difficult | 12.1% | 23.2% | 12.8% | 20.8% | 15.1% | 10.8% |
| Somewhat difficult | 7.0% | 16.7% | 12.1% | 20.8% | 30.5% | 5.1% |
| Very difficult | 19.9% | 9.5% | 15.8% | 7.0% | 1.0% | 0.8% |
| Can't see / blind | 31.0% | 4.5% | 25.3% | 4.4% | 4.4% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing words/letters(if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 2.2% | 4.9% | 8.6% | 24.1% | 84.7% | 61.9% |
| A little difficult | 0.0% | 13.4% | 0.6% | 12.0% | 7.7% | 23.4% |
| Somewhat difficult | 0.0% | 7.4% | 0.0% | 5.6% | 0.0% | 12.8% |
| Very difficult | 27.8% | 4.9% | 26.3% | 5.6% | 7.7% | 1.4% |
| Can't see / blind | 70.0% | 69.5% | 64.5% | 52.7% | 0.0% | 0.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty seeing friend across the street (if the person does not wear glasses or contacts) | | | | | | |
| Not difficult | 2.5% | 14.7% | 10.3% | 33.4% | 92.3% | 92.3% |
| A little difficult | 0.7% | 10.9% | 1.3% | 10.1% | 7.7% | 6.4% |
| Somewhat difficult | 0.7% | 6.6% | 0.7% | 5.0% | 0.0% | 1.3% |
| Very difficult | 11.4% | 2.4% | 10.4% | 1.9% | 0.0% | 0.0% |
| Can't see / blind | 84.7% | 65.3% | 77.3% | 49.5% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-10a: Presence of Ambulatory Condition vs Answers to Detailed Questions, Control**

| Ambulatory Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 45.8% | 15.5% | 37.8% | 13.5% | 9.8% | 0.5% |
| No | 54.2% | 84.5% | 62.2% | 86.5% | 90.2% | 99.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 2.5% | 11.5% | 2.8% | 10.4% | 7.1% | 34.3% |
| A little difficult | 3.3% | 11.8% | 3.3% | 9.6% | 3.0% | 20.2% |
| Somewhat difficult | 9.7% | 23.3% | 10.5% | 23.3% | 23.3% | 5.1% |
| Very difficult | 26.1% | 17.4% | 25.6% | 17.8% | 18.9% | 6.1% |
| Can't do at all | 58.4% | 36.0% | 57.8% | 39.0% | 47.7% | 34.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 4.4% | 5.9% | 4.5% | 6.0% | 6.4% | 42.5% |
| A little difficult | 5.8% | 25.6% | 6.4% | 23.0% | 15.5% | 13.9% |
| Somewhat difficult | 15.7% | 23.7% | 15.6% | 21.0% | 13.3% | 9.6% |
| Very difficult | 36.3% | 29.5% | 36.1% | 30.3% | 32.6% | 29.6% |
| Can't do at all | 37.7% | 15.3% | 37.4% | 19.6% | 32.1% | 4.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 5.2% | 10.2% | 6.0% | 12.3% | 18.0% | 14.1% |
| A little difficult | 7.0% | 22.6% | 7.2% | 19.5% | 11.3% | 28.3% |
| Somewhat difficult | 14.2% | 19.4% | 13.8% | 16.1% | 7.2% | 9.0% |
| Very difficult | 29.2% | 23.2% | 29.3% | 25.2% | 30.4% | 17.3% |
| Can't do at all | 44.4% | 24.7% | 43.7% | 26.9% | 33.1% | 31.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 5.4% | 14.4% | 5.4% | 12.3% | 6.4% | 12.7% |
| A little difficult | 9.5% | 13.9% | 9.8% | 14.4% | 15.8% | 31.5% |
| Somewhat difficult | 21.8% | 27.1% | 21.5% | 24.3% | 16.3% | 5.9% |
| Very difficult | 33.4% | 24.6% | 33.4% | 26.6% | 32.2% | 42.2% |
| Can't do at all | 29.9% | 20.0% | 29.9% | 22.4% | 29.3% | 7.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 18.1% | 46.6% | 33.2% | 53.4% | 65.1% | 95.8% |
| A little difficult | 15.9% | 16.3% | 15.8% | 16.1% | 15.6% | 2.7% |
| Somewhat difficult | 26.9% | 17.3% | 21.9% | 15.2% | 11.5% | 1.1% |
| Very difficult | 21.9% | 15.6% | 16.9% | 12.2% | 6.3% | 0.2% |
| Can't do at all | 17.2% | 4.2% | 12.1% | 3.2% | 1.4% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 19.0% | 36.6% | 33.1% | 46.1% | 62.7% | 96.0% |
| A little difficult | 20.7% | 29.2% | 19.6% | 25.0% | 17.5% | 2.7% |
| Somewhat difficult | 30.9% | 20.5% | 25.0% | 17.7% | 12.7% | 1.1% |
| Very difficult | 23.9% | 10.0% | 18.2% | 8.6% | 6.2% | 0.2% |
| Can't do at all | 5.5% | 3.6% | 4.0% | 2.6% | 0.9% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 4.1% | 7.8% | 4.7% | 7.9% | 8.2% | 14.1% |
| Six months to one year | 12.3% | 15.7% | 12.4% | 15.1% | 13.6% | 27.8% |
| One year or longer | 83.6% | 76.5% | 82.9% | 77.0% | 78.3% | 58.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | 48.1% | 17.7% | 48.5% | 26.5% | 49.6% | 29.0% |
| No | 51.9% | 82.3% | 51.5% | 73.5% | 50.4% | 71.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-10b: Presence of Ambulatory Condition vs Answers to Detailed Questions, Control (5-14)**

| Ambulatory Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 25.6% | 0.0% | 20.0% | 0.0% | 0.0% | 0.1% |
| No | 74.4% | 100.0% | 80.0% | 100.0% | 100.0% | 99.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | | 0.0% | | | 94.2% |
| A little difficult | 0.0% | | 0.0% | | | 0.0% |
| Somewhat difficult | 23.9% | | 23.9% | | | 0.0% |
| Very difficult | 28.2% | | 28.2% | | | 0.0% |
| Can't do at all | 47.9% | | 47.9% | | | 5.8% |
| Total | 100.0% | | 100.0% | | | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | | 0.0% | | | 94.2% |
| A little difficult | 0.0% | | 0.0% | | | 0.0% |
| Somewhat difficult | 43.6% | | 43.6% | | | 0.0% |
| Very difficult | 4.3% | | 4.3% | | | 0.0% |
| Can't do at all | 52.1% | | 52.1% | | | 5.8% |
| Total | 100.0% | | 100.0% | | | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 19.7% | | 19.7% | | | 0.0% |
| A little difficult | 0.0% | | 0.0% | | | 0.0% |
| Somewhat difficult | 32.5% | | 32.5% | | | 100.0% |
| Very difficult | 39.3% | | 39.3% | | | 0.0% |
| Can't do at all | 8.6% | | 8.6% | | | 0.0% |
| Total | 100.0% | | 100.0% | | | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | | 0.0% | | | 0.0% |
| A little difficult | 4.3% | | 4.3% | | | 0.0% |
| Somewhat difficult | 28.2% | | 28.2% | | | 100.0% |
| Very difficult | 19.7% | | 19.7% | | | 0.0% |
| Can't do at all | 47.9% | | 47.9% | | | 0.0% |
| Total | 100.0% | | 100.0% | | | 100.0% |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 15.0% | 55.6% | 31.1% | 58.7% | 74.1% | 99.2% |
| A little difficult | 14.4% | 25.6% | 16.5% | 25.0% | 22.0% | 0.4% |
| Somewhat difficult | 15.0% | 18.9% | 12.0% | 16.4% | 3.9% | 0.3% |
| Very difficult | 51.7% | 0.0% | 37.6% | 0.0% | 0.0% | 0.0% |
| Can't do at all | 4.0% | 0.0% | 2.9% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 5.6% | 50.9% | 19.4% | 51.6% | 56.1% | 99.6% |
| A little difficult | 26.4% | 22.6% | 31.2% | 25.7% | 43.9% | 0.2% |
| Somewhat difficult | 27.0% | 7.9% | 19.7% | 6.8% | 0.0% | 0.1% |
| Very difficult | 36.9% | 2.1% | 26.9% | 1.8% | 0.0% | 0.0% |
| Can't do at all | 4.0% | 16.5% | 2.9% | 14.1% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 15.6% |
| Six months to one year | 5.1% | 1.1% | 5.5% | 2.0% | 8.2% | 16.1% |
| One year or longer | 94.9% | 98.9% | 94.5% | 98.0% | 91.8% | 68.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | | | | | | 6.3% |
| No | | | | | | 93.7% |
| Total | | | | | | 100.0% |

**Appendix C-10c: Presence of Ambulatory Condition vs Answers to Detailed Questions, Control (15-64)**

| Ambulatory Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 38.0% | 8.9% | 30.2% | 7.5% | 5.3% | 0.2% |
| No | 62.0% | 91.1% | 69.8% | 92.5% | 94.7% | 99.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 4.6% | 4.9% | 5.3% | 9.2% | 21.4% | 40.8% |
| A little difficult | 3.8% | 18.7% | 3.7% | 13.8% | 0.0% | 10.6% |
| Somewhat difficult | 12.0% | 43.3% | 13.9% | 47.3% | 58.6% | 6.1% |
| Very difficult | 26.9% | 16.5% | 25.9% | 12.6% | 1.6% | 4.9% |
| Can't do at all | 52.6% | 16.6% | 51.2% | 17.1% | 18.3% | 37.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 3.7% | 5.3% | 4.2% | 7.9% | 15.1% | 49.8% |
| A little difficult | 4.6% | 37.2% | 5.3% | 33.1% | 21.4% | 9.1% |
| Somewhat difficult | 19.4% | 26.6% | 19.0% | 22.0% | 8.7% | 2.4% |
| Very difficult | 41.5% | 18.0% | 41.8% | 25.6% | 47.3% | 38.7% |
| Can't do at all | 30.7% | 12.9% | 29.7% | 11.5% | 7.5% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 5.5% | 16.8% | 5.4% | 13.3% | 2.1% | 11.7% |
| A little difficult | 6.1% | 23.2% | 6.2% | 20.0% | 9.6% | 25.3% |
| Somewhat difficult | 14.6% | 32.8% | 14.3% | 26.7% | 6.9% | 3.6% |
| Very difficult | 34.6% | 14.1% | 35.4% | 24.0% | 56.0% | 53.1% |
| Can't do at all | 39.2% | 13.1% | 38.7% | 16.0% | 25.4% | 6.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 3.9% | 14.9% | 4.2% | 13.9% | 10.8% | 12.2% |
| A little difficult | 6.9% | 21.4% | 7.3% | 20.2% | 16.3% | 16.1% |
| Somewhat difficult | 27.8% | 47.1% | 27.5% | 40.3% | 19.1% | 7.4% |
| Very difficult | 37.9% | 9.0% | 38.4% | 19.9% | 53.8% | 62.7% |
| Can't do at all | 23.6% | 7.5% | 22.7% | 5.7% | 0.0% | 1.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 18.7% | 49.1% | 35.7% | 57.5% | 71.7% | 96.5% |
| A little difficult | 17.9% | 16.3% | 17.7% | 16.7% | 17.3% | 2.4% |
| Somewhat difficult | 28.7% | 16.5% | 21.6% | 12.8% | 6.6% | 0.9% |
| Very difficult | 22.0% | 15.7% | 16.0% | 11.1% | 3.3% | 0.1% |
| Can't do at all | 12.8% | 2.3% | 9.1% | 1.9% | 1.1% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 16.7% | 40.0% | 32.5% | 49.7% | 65.9% | 96.6% |
| A little difficult | 21.8% | 33.0% | 20.7% | 27.6% | 18.3% | 2.5% |
| Somewhat difficult | 33.7% | 17.6% | 26.0% | 14.7% | 9.8% | 0.7% |
| Very difficult | 22.2% | 8.7% | 16.8% | 7.5% | 5.3% | 0.1% |
| Can't do at all | 5.6% | 0.6% | 4.0% | 0.6% | 0.7% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 5.6% | 11.1% | 5.3% | 9.1% | 3.5% | 15.1% |
| Six months to one year | 11.6% | 12.5% | 11.4% | 11.8% | 9.6% | 26.4% |
| One year or longer | 82.8% | 76.4% | 83.3% | 79.1% | 87.0% | 58.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | 43.8% | 15.7% | 46.5% | 20.6% | 82.1% | 25.3% |
| No | 56.2% | 84.3% | 53.5% | 79.4% | 17.9% | 74.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-10d: Presence of Ambulatory Condition vs Answers to Detailed Questions, Control (65+)**

| Ambulatory Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 56.7% | 26.9% | 48.8% | 23.7% | 17.5% | 3.0% |
| No | 43.3% | 73.1% | 51.2% | 76.3% | 82.5% | 97.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.7% | 14.7% | 0.7% | 11.0% | 0.0% | 25.8% |
| A little difficult | 2.9% | 8.6% | 3.0% | 7.5% | 4.5% | 27.4% |
| Somewhat difficult | 7.4% | 13.7% | 7.3% | 11.7% | 5.9% | 4.9% |
| Very difficult | 25.3% | 17.8% | 25.4% | 20.2% | 27.4% | 7.3% |
| Can't do at all | 63.7% | 45.3% | 63.6% | 49.6% | 62.2% | 34.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 5.1% | 6.2% | 4.9% | 5.2% | 2.2% | 34.3% |
| A little difficult | 7.0% | 20.2% | 7.4% | 18.3% | 12.7% | 17.8% |
| Somewhat difficult | 12.1% | 22.2% | 12.3% | 20.5% | 15.6% | 14.4% |
| Very difficult | 32.1% | 34.9% | 31.6% | 32.5% | 25.4% | 26.7% |
| Can't do at all | 43.7% | 16.5% | 43.7% | 23.5% | 44.2% | 6.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 4.8% | 6.9% | 6.2% | 11.8% | 24.1% | 15.3% |
| A little difficult | 7.8% | 22.2% | 8.1% | 19.3% | 11.9% | 29.8% |
| Somewhat difficult | 13.7% | 12.6% | 13.2% | 11.1% | 7.4% | 10.9% |
| Very difficult | 24.3% | 27.8% | 24.0% | 25.7% | 20.5% | 1.2% |
| Can't do at all | 49.4% | 30.5% | 48.4% | 32.1% | 36.0% | 42.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 6.8% | 14.1% | 6.6% | 11.6% | 4.6% | 13.1% |
| A little difficult | 11.8% | 10.3% | 12.1% | 11.7% | 15.6% | 38.4% |
| Somewhat difficult | 16.3% | 17.5% | 16.2% | 16.8% | 15.1% | 4.6% |
| Very difficult | 29.7% | 32.1% | 29.2% | 29.7% | 23.0% | 33.6% |
| Can't do at all | 35.4% | 26.0% | 35.9% | 30.1% | 41.7% | 10.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 17.3% | 40.8% | 28.9% | 45.3% | 52.7% | 84.2% |
| A little difficult | 12.3% | 15.1% | 12.3% | 14.0% | 12.3% | 8.7% |
| Somewhat difficult | 24.2% | 18.5% | 23.1% | 19.4% | 20.8% | 4.1% |
| Very difficult | 20.0% | 17.4% | 17.4% | 15.4% | 12.0% | 1.0% |
| Can't do at all | 26.2% | 8.2% | 18.3% | 5.9% | 2.1% | 1.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 24.1% | 28.3% | 34.8% | 39.0% | 57.0% | 85.0% |
| A little difficult | 18.2% | 23.4% | 17.1% | 20.2% | 14.8% | 8.1% |
| Somewhat difficult | 25.8% | 27.7% | 23.5% | 24.4% | 18.8% | 5.5% |
| Very difficult | 26.4% | 13.5% | 20.4% | 11.5% | 8.1% | 1.3% |
| Can't do at all | 5.5% | 7.1% | 4.2% | 4.9% | 1.3% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 2.4% | 4.4% | 4.0% | 6.9% | 13.0% | 12.4% |
| Six months to one year | 13.3% | 20.8% | 14.0% | 19.8% | 17.6% | 30.8% |
| One year or longer | 84.2% | 74.8% | 82.0% | 73.2% | 69.3% | 56.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | 58.9% | 23.6% | 51.1% | 34.7% | 43.5% | 38.1% |
| No | 41.1% | 76.4% | 48.9% | 65.3% | 56.5% | 61.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-11a: Presence of Ambulatory Condition vs Answers to Detailed Questions, Test**

| Ambulatory Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 52.4% | 22.9% | 43.9% | 19.8% | 12.9% | 0.6% |
| No | 47.6% | 77.1% | 56.1% | 80.2% | 87.1% | 99.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 2.5% | 8.1% | 2.5% | 6.9% | 1.4% | 48.7% |
| A little difficult | 3.9% | 9.7% | 4.0% | 9.0% | 5.9% | 19.1% |
| Somewhat difficult | 6.9% | 16.4% | 9.0% | 21.6% | 45.2% | 14.1% |
| Very difficult | 27.7% | 21.5% | 27.4% | 21.5% | 21.7% | 6.9% |
| Can't do at all | 58.9% | 44.3% | 57.1% | 40.9% | 25.8% | 11.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 5.4% | 11.3% | 5.8% | 11.7% | 13.2% | 63.6% |
| A little difficult | 6.9% | 17.5% | 7.5% | 17.3% | 16.7% | 20.7% |
| Somewhat difficult | 12.8% | 23.8% | 14.4% | 26.6% | 37.6% | 8.9% |
| Very difficult | 37.5% | 23.9% | 36.0% | 22.0% | 14.5% | 2.9% |
| Can't do at all | 37.4% | 23.6% | 36.2% | 22.5% | 18.1% | 3.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 9.8% | 5.4% | 10.2% | 7.4% | 15.1% | 39.4% |
| A little difficult | 8.8% | 17.3% | 9.1% | 16.5% | 13.5% | 23.0% |
| Somewhat difficult | 11.1% | 16.0% | 12.9% | 21.4% | 41.9% | 14.0% |
| Very difficult | 28.9% | 20.9% | 27.4% | 17.4% | 4.0% | 9.3% |
| Can't do at all | 41.4% | 40.5% | 40.4% | 37.4% | 25.5% | 14.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 3.8% | 4.8% | 5.2% | 9.4% | 28.3% | 9.8% |
| A little difficult | 10.7% | 27.5% | 10.7% | 24.2% | 10.6% | 57.9% |
| Somewhat difficult | 16.5% | 27.8% | 17.5% | 29.1% | 34.4% | 16.4% |
| Very difficult | 33.1% | 21.4% | 32.0% | 20.2% | 15.1% | 6.3% |
| Can't do at all | 36.0% | 18.5% | 34.6% | 17.1% | 11.7% | 9.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 6.6% | 27.9% | 20.8% | 35.5% | 50.5% | 94.5% |
| A little difficult | 20.5% | 23.6% | 20.0% | 22.1% | 19.1% | 3.0% |
| Somewhat difficult | 22.1% | 23.4% | 19.4% | 20.1% | 13.8% | 1.8% |
| Very difficult | 30.9% | 15.9% | 24.6% | 14.4% | 11.4% | 0.5% |
| Can't do at all | 19.9% | 9.3% | 15.1% | 7.9% | 5.3% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 4.5% | 18.3% | 16.8% | 26.2% | 41.1% | 95.2% |
| A little difficult | 13.9% | 25.9% | 18.9% | 26.9% | 28.7% | 3.2% |
| Somewhat difficult | 32.1% | 35.4% | 27.6% | 29.7% | 18.8% | 1.4% |
| Very difficult | 40.7% | 16.7% | 30.7% | 14.7% | 11.0% | 0.2% |
| Can't do at all | 8.8% | 3.6% | 6.0% | 2.5% | 0.5% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 2.2% | 7.7% | 2.5% | 6.8% | 4.1% | 12.8% |
| Six months to one year | 8.5% | 15.6% | 9.7% | 15.8% | 16.5% | 23.1% |
| One year or longer | 89.3% | 76.7% | 87.8% | 77.4% | 79.3% | 64.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | 66.7% | 44.0% | 58.9% | 41.9% | 25.0% | 34.5% |
| No | 33.3% | 56.0% | 41.1% | 58.1% | 75.0% | 65.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-11b: Presence of Ambulatory Condition vs Answers to Detailed Questions, Test (5-14)**

| Ambulatory Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 53.5% | 16.5% | 48.5% | 12.1% | 0.0% | 0.5% |
| No | 46.5% | 83.5% | 51.5% | 87.9% | 100.0% | 99.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | 0.0% | 0.0% | 0.0% | | 92.9% |
| A little difficult | 0.0% | 0.0% | 0.0% | 0.0% | | 7.1% |
| Somewhat difficult | 0.0% | 81.8% | 0.0% | 81.8% | | 0.0% |
| Very difficult | 56.2% | 0.0% | 56.2% | 0.0% | | 0.0% |
| Can't do at all | 43.8% | 18.2% | 43.8% | 18.2% | | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 54.6% | 0.0% | 54.6% | 0.0% | | 100.0% |
| A little difficult | 0.0% | 0.0% | 0.0% | 0.0% | | 0.0% |
| Somewhat difficult | 0.0% | 0.0% | 0.0% | 0.0% | | 0.0% |
| Very difficult | 3.2% | 81.8% | 3.2% | 81.8% | | 0.0% |
| Can't do at all | 42.2% | 18.2% | 42.2% | 18.2% | | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | 0.0% | 0.0% | 0.0% | | 100.0% |
| A little difficult | 1.6% | 81.8% | 1.6% | 81.8% | | 0.0% |
| Somewhat difficult | 54.6% | 0.0% | 54.6% | 0.0% | | 0.0% |
| Very difficult | 7.9% | 18.2% | 7.9% | 18.2% | | 0.0% |
| Can't do at all | 35.9% | 0.0% | 35.9% | 0.0% | | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | 0.0% | 0.0% | 0.0% | | |
| A little difficult | 3.6% | 81.8% | 3.6% | 81.8% | | |
| Somewhat difficult | 0.0% | 0.0% | 0.0% | 0.0% | | |
| Very difficult | 0.0% | 18.2% | 0.0% | 18.2% | | |
| Can't do at all | 96.4% | 0.0% | 96.4% | 0.0% | | |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | | |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | 31.9% | 18.2% | 52.3% | 100.0% | 99.0% |
| A little difficult | 0.0% | 16.1% | 0.0% | 11.3% | 0.0% | 0.4% |
| Somewhat difficult | 13.8% | 32.3% | 11.3% | 22.6% | 0.0% | 0.6% |
| Very difficult | 86.2% | 19.7% | 70.6% | 13.8% | 0.0% | 0.1% |
| Can't do at all | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 0.0% | 31.9% | 18.2% | 52.3% | 100.0% | 99.2% |
| A little difficult | 0.0% | 48.4% | 0.0% | 33.9% | 0.0% | 0.5% |
| Somewhat difficult | 73.1% | 3.6% | 59.8% | 2.5% | 0.0% | 0.3% |
| Very difficult | 26.9% | 16.1% | 22.1% | 11.3% | 0.0% | 0.0% |
| Can't do at all | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 29.2% | 0.0% | 29.2% | 0.0% | | 12.9% |
| Six months to one year | 0.0% | 0.0% | 0.0% | 0.0% | | 5.9% |
| One year or longer | 70.8% | 100.0% | 70.8% | 100.0% | | 81.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | 100.0% | | 100.0% | | | 0.0% |
| No | 0.0% | | 0.0% | | | 100.0% |
| Total | 100.0% | | 100.0% | | | 100.0% |

**Appendix C-11c: Presence of Ambulatory Condition vs Answers to Detailed Questions, Test (15-64)**

| Ambulatory Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 43.7% | 15.6% | 36.1% | 13.9% | 10.0% | 0.3% |
| No | 56.3% | 84.4% | 63.9% | 86.1% | 90.0% | 99.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 4.7% | 4.6% | 4.4% | 3.9% | 1.4% | 66.1% |
| A little difficult | 5.9% | 13.0% | 5.9% | 11.5% | 6.1% | 17.1% |
| Somewhat difficult | 9.1% | 17.5% | 12.1% | 26.0% | 56.4% | 7.5% |
| Very difficult | 32.8% | 15.3% | 32.4% | 17.6% | 25.9% | 3.1% |
| Can't do at all | 47.5% | 49.7% | 45.2% | 41.0% | 10.2% | 6.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 3.9% | 5.7% | 4.1% | 6.1% | 7.5% | 70.2% |
| A little difficult | 7.2% | 7.5% | 7.6% | 8.8% | 13.6% | 16.5% |
| Somewhat difficult | 13.5% | 31.1% | 16.7% | 38.6% | 65.2% | 11.5% |
| Very difficult | 46.4% | 20.4% | 44.0% | 17.5% | 7.5% | 1.9% |
| Can't do at all | 29.1% | 35.3% | 27.6% | 28.9% | 6.1% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 12.1% | 6.1% | 12.0% | 7.3% | 11.3% | 41.2% |
| A little difficult | 10.2% | 19.8% | 10.0% | 17.1% | 7.6% | 24.3% |
| Somewhat difficult | 14.0% | 11.1% | 17.7% | 24.9% | 72.1% | 30.8% |
| Very difficult | 34.6% | 20.9% | 32.5% | 16.5% | 1.4% | 3.7% |
| Can't do at all | 29.1% | 42.0% | 27.7% | 34.2% | 7.6% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 4.7% | 2.7% | 5.9% | 7.3% | 23.8% | 4.6% |
| A little difficult | 11.1% | 16.9% | 11.1% | 15.6% | 11.1% | 52.9% |
| Somewhat difficult | 22.7% | 36.5% | 24.8% | 40.9% | 57.0% | 37.9% |
| Very difficult | 37.4% | 20.5% | 35.2% | 16.3% | 1.5% | 4.6% |
| Can't do at all | 24.0% | 23.5% | 23.0% | 19.9% | 6.6% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 5.5% | 31.4% | 20.6% | 38.4% | 53.1% | 95.5% |
| A little difficult | 20.2% | 24.1% | 19.9% | 22.6% | 19.4% | 2.7% |
| Somewhat difficult | 25.1% | 22.2% | 22.1% | 20.1% | 15.7% | 1.4% |
| Very difficult | 27.9% | 14.0% | 20.8% | 11.2% | 5.4% | 0.3% |
| Can't do at all | 21.3% | 8.3% | 16.5% | 7.7% | 6.3% | 0.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 4.8% | 20.1% | 16.5% | 27.0% | 41.5% | 96.2% |
| A little difficult | 11.1% | 25.0% | 15.8% | 25.3% | 25.8% | 2.6% |
| Somewhat difficult | 35.3% | 36.5% | 31.4% | 32.2% | 23.1% | 1.0% |
| Very difficult | 40.5% | 17.5% | 30.6% | 14.9% | 9.3% | 0.2% |
| Can't do at all | 8.3% | 0.9% | 5.7% | 0.7% | 0.2% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 1.3% | 9.7% | 1.8% | 8.4% | 4.4% | 13.4% |
| Six months to one year | 6.9% | 14.3% | 7.1% | 12.7% | 8.0% | 21.2% |
| One year or longer | 91.8% | 76.0% | 91.1% | 78.9% | 87.6% | 65.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | 62.0% | 45.1% | 57.2% | 45.2% | 45.8% | 30.3% |
| No | 38.0% | 54.9% | 42.8% | 54.8% | 54.2% | 69.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-11d: Presence of Ambulatory Condition vs Answers to Detailed Questions, Test (65+)**

| Ambulatory Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person use an ambulatory aid? | | | | | | |
| Yes | 63.0% | 34.1% | 53.2% | 28.4% | 17.0% | 3.0% |
| No | 37.0% | 65.9% | 46.8% | 71.6% | 83.0% | 97.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 0.8% | 10.7% | 0.9% | 9.3% | 1.5% | 27.0% |
| A little difficult | 2.5% | 7.6% | 2.6% | 7.3% | 5.7% | 23.3% |
| Somewhat difficult | 5.4% | 14.6% | 6.8% | 17.5% | 33.2% | 21.6% |
| Very difficult | 22.1% | 26.2% | 21.8% | 24.8% | 17.1% | 11.0% |
| Can't do at all | 69.2% | 40.9% | 67.9% | 41.1% | 42.5% | 17.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs without ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 4.3% | 15.2% | 5.2% | 15.7% | 17.7% | 50.6% |
| A little difficult | 7.1% | 24.6% | 7.8% | 23.5% | 19.1% | 28.5% |
| Somewhat difficult | 12.9% | 19.2% | 13.0% | 18.4% | 15.3% | 9.4% |
| Very difficult | 31.5% | 25.4% | 30.7% | 24.4% | 20.1% | 4.2% |
| Can't do at all | 44.3% | 15.6% | 43.2% | 18.0% | 27.8% | 7.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 8.5% | 4.8% | 9.1% | 7.5% | 18.7% | 37.4% |
| A little difficult | 8.1% | 14.3% | 8.7% | 15.2% | 18.9% | 23.2% |
| Somewhat difficult | 6.6% | 20.0% | 7.0% | 18.8% | 14.0% | 9.5% |
| Very difficult | 25.2% | 20.8% | 24.1% | 18.0% | 6.4% | 11.1% |
| Can't do at all | 51.7% | 40.0% | 51.1% | 40.4% | 42.0% | 18.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs with ambulatory aid (if the person uses an ambulatory aid) | | | | | | |
| Not difficult | 3.0% | 6.4% | 4.7% | 11.3% | 32.4% | 11.7% |
| A little difficult | 10.5% | 34.7% | 10.4% | 30.1% | 10.2% | 59.7% |
| Somewhat difficult | 11.4% | 21.7% | 11.6% | 20.2% | 13.5% | 8.9% |
| Very difficult | 30.1% | 22.2% | 30.0% | 23.2% | 27.5% | 6.9% |
| Can't do at all | 45.0% | 15.0% | 43.4% | 15.2% | 16.4% | 12.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty walking 1/4 miile (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 9.0% | 21.1% | 21.4% | 29.7% | 44.7% | 81.5% |
| A little difficult | 22.5% | 23.0% | 21.3% | 21.6% | 19.1% | 8.7% |
| Somewhat difficult | 17.2% | 25.2% | 15.0% | 20.1% | 11.0% | 6.3% |
| Very difficult | 32.6% | 19.3% | 28.7% | 20.0% | 21.3% | 2.1% |
| Can't do at all | 18.7% | 11.5% | 13.5% | 8.7% | 3.8% | 1.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty climbing stairs (if the person does not use an ambulatory aid) | | | | | | |
| Not difficult | 4.3% | 14.4% | 17.2% | 23.9% | 39.0% | 83.0% |
| A little difficult | 20.1% | 26.9% | 25.1% | 29.4% | 33.5% | 10.9% |
| Somewhat difficult | 23.3% | 34.7% | 19.4% | 26.3% | 12.9% | 5.0% |
| Very difficult | 41.9% | 15.2% | 31.4% | 14.6% | 13.7% | 0.5% |
| Can't do at all | 10.4% | 8.9% | 6.9% | 5.8% | 1.0% | 0.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How long have you had these difficulties? (if the person reported "a little difficulty" or more to any question) | | | | | | |
| Less than six months | 1.7% | 5.1% | 2.0% | 4.7% | 3.8% | 11.9% |
| Six months to one year | 10.9% | 17.8% | 13.4% | 20.3% | 27.1% | 27.3% |
| One year or longer | 87.4% | 77.1% | 84.5% | 74.9% | 69.2% | 60.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Do you expect these difficulties to continue six months or more? (if the person reported "less than six months") | | | | | | |
| Yes | 37.5% | 41.0% | 29.0% | 33.9% | 0.0% | 44.0% |
| No | 62.5% | 59.0% | 71.0% | 66.1% | 100.0% | 56.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-12a: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Control**

| Dressing or Bathing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 75.8% | 35.6% | 53.7% | 27.2% | 17.4% | 0.6% |
| No | 24.2% | 64.4% | 46.3% | 72.8% | 82.6% | 99.4% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 2.5% | 7.5% | 3.0% | 7.4% | 7.0% | 56.5% |
| A little difficult | 12.1% | 12.5% | 12.5% | 13.4% | 15.5% | 13.5% |
| Somewhat difficult | 28.5% | 48.5% | 28.8% | 43.5% | 31.6% | 15.4% |
| Very difficult | 22.7% | 19.2% | 22.7% | 20.2% | 22.7% | 9.7% |
| Can't do at all | 34.2% | 12.3% | 32.9% | 15.5% | 23.2% | 5.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 1.4% | 2.9% | 1.2% | 2.1% | 0.0% | 4.1% |
| Rarely | 7.6% | 8.9% | 7.4% | 8.0% | 5.8% | 11.6% |
| Occasionally | 19.3% | 37.1% | 21.5% | 37.6% | 38.5% | 36.1% |
| Usually | 14.3% | 7.0% | 13.4% | 6.8% | 6.4% | 16.2% |
| Always | 57.4% | 44.0% | 56.5% | 45.6% | 49.3% | 32.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 11.7% | 20.4% | 12.6% | 20.0% | 19.1% | 63.5% |
| A little difficult | 7.6% | 28.0% | 12.2% | 33.0% | 44.9% | 20.5% |
| Somewhat difficult | 40.0% | 34.3% | 38.1% | 31.6% | 25.0% | 11.6% |
| Very difficult | 19.1% | 11.2% | 17.5% | 9.6% | 5.9% | 1.8% |
| Can't do at all | 21.5% | 6.1% | 19.5% | 5.8% | 5.0% | 2.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 3.4% | 17.7% | 5.8% | 19.8% | 24.7% | 6.4% |
| Rarely | 10.6% | 22.4% | 12.5% | 23.9% | 27.4% | 14.5% |
| Occasionally | 24.3% | 23.7% | 23.9% | 22.9% | 21.0% | 36.4% |
| Usually | 15.2% | 11.8% | 13.5% | 8.4% | 0.7% | 28.2% |
| Always | 46.6% | 24.4% | 44.3% | 24.9% | 26.2% | 14.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-12b: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Control (5-14)**

| Dressing or Bathing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 79.7% | 49.7% | 73.8% | 44.7% | 36.0% | 0.8% |
| No | 20.3% | 50.3% | 26.2% | 55.3% | 64.0% | 99.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 0.0% | 0.0% | 5.5% | 25.7% | 100.0% | 62.9% |
| A little difficult | 4.1% | 69.0% | 3.9% | 51.3% | 0.0% | 30.2% |
| Somewhat difficult | 42.6% | 31.0% | 40.2% | 23.0% | 0.0% | 6.8% |
| Very difficult | 7.1% | 0.0% | 6.8% | 0.0% | 0.0% | 0.0% |
| Can't do at all | 46.2% | 0.0% | 43.6% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Rarely | 0.0% | 34.5% | 1.3% | 39.1% | 100.0% | 0.0% |
| Occasionally | 0.0% | 42.0% | 0.0% | 39.1% | 0.0% | 25.8% |
| Usually | 15.9% | 0.0% | 15.7% | 0.0% | 0.0% | 55.8% |
| Always | 84.1% | 23.5% | 83.1% | 21.8% | 0.0% | 18.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 0.0% | 0.0% | 5.5% | 24.3% | 82.1% | 83.6% |
| A little difficult | 4.1% | 34.5% | 3.8% | 24.3% | 0.0% | 11.6% |
| Somewhat difficult | 39.3% | 65.5% | 37.8% | 51.4% | 17.9% | 4.8% |
| Very difficult | 28.1% | 0.0% | 26.2% | 0.0% | 0.0% | 0.0% |
| Can't do at all | 28.5% | 0.0% | 26.6% | 0.0% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Rarely | 0.0% | 34.5% | 1.3% | 39.1% | 100.0% | 0.0% |
| Occasionally | 36.7% | 42.0% | 36.2% | 39.1% | 0.0% | 100.0% |
| Usually | 15.9% | 0.0% | 15.7% | 0.0% | 0.0% | 0.0% |
| Always | 47.4% | 23.5% | 46.8% | 21.8% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-12c: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Control (15-64)**

| Dressing or Bathing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 66.7% | 23.6% | 46.3% | 19.9% | 15.6% | 0.4% |
| No | 33.3% | 76.4% | 53.7% | 80.1% | 84.4% | 99.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 2.4% | 17.3% | 2.7% | 12.8% | 4.7% | 67.3% |
| A little difficult | 13.4% | 13.7% | 13.6% | 14.1% | 14.7% | 7.8% |
| Somewhat difficult | 33.1% | 58.2% | 35.1% | 54.3% | 47.4% | 16.0% |
| Very difficult | 23.5% | 4.9% | 20.7% | 4.3% | 3.0% | 4.9% |
| Can't do at all | 27.6% | 5.9% | 27.9% | 14.5% | 30.1% | 4.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 1.5% | 1.4% | 1.3% | 0.8% | 0.0% | 0.0% |
| Rarely | 6.6% | 12.7% | 6.4% | 9.7% | 4.9% | 16.4% |
| Occasionally | 33.8% | 49.7% | 35.3% | 47.9% | 45.1% | 44.9% |
| Usually | 10.1% | 11.6% | 9.5% | 9.4% | 6.0% | 7.5% |
| Always | 48.1% | 24.7% | 47.5% | 32.2% | 44.0% | 31.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 16.9% | 15.7% | 16.7% | 15.5% | 15.1% | 65.9% |
| A little difficult | 6.4% | 13.4% | 15.3% | 34.2% | 71.5% | 12.6% |
| Somewhat difficult | 40.6% | 57.1% | 36.8% | 41.2% | 12.4% | 13.5% |
| Very difficult | 19.1% | 12.2% | 16.6% | 8.2% | 1.0% | 2.0% |
| Can't do at all | 17.0% | 1.6% | 14.7% | 1.0% | 0.0% | 6.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 3.2% | 3.1% | 7.7% | 14.7% | 35.5% | 1.3% |
| Rarely | 9.6% | 29.0% | 11.9% | 27.9% | 25.9% | 27.1% |
| Occasionally | 32.4% | 32.1% | 32.1% | 31.6% | 30.7% | 42.1% |
| Usually | 10.8% | 13.7% | 9.4% | 9.2% | 1.2% | 0.0% |
| Always | 44.1% | 22.1% | 38.9% | 16.6% | 6.7% | 29.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-12d: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Control (65+)**

| Dressing or Bathing Condition | Control: Yes Followup: Yes | Control: No Followup: Yes | Control: Yes Followup: Any | One Yes One No | Control: Yes Followup: No | Control: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 87.0% | 53.9% | 61.6% | 37.2% | 19.3% | 1.9% |
| No | 13.0% | 46.1% | 38.4% | 62.8% | 80.7% | 98.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 2.9% | 1.2% | 3.1% | 2.0% | 4.7% | 40.9% |
| A little difficult | 11.8% | 8.7% | 12.5% | 10.9% | 17.3% | 11.9% |
| Somewhat difficult | 22.2% | 42.7% | 21.3% | 35.8% | 15.1% | 18.9% |
| Very difficult | 23.9% | 30.0% | 26.6% | 34.1% | 46.5% | 19.9% |
| Can't do at all | 39.2% | 17.4% | 36.5% | 17.2% | 16.4% | 8.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 1.4% | 4.0% | 1.2% | 3.0% | 0.0% | 7.9% |
| Rarely | 9.6% | 5.4% | 9.2% | 5.5% | 5.6% | 12.2% |
| Occasionally | 7.4% | 29.6% | 10.2% | 30.1% | 31.5% | 33.6% |
| Usually | 18.3% | 4.7% | 16.9% | 5.2% | 6.9% | 9.6% |
| Always | 63.3% | 56.3% | 62.5% | 56.2% | 56.0% | 36.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 8.1% | 24.7% | 9.4% | 23.4% | 19.6% | 50.9% |
| A little difficult | 9.2% | 37.7% | 10.2% | 32.6% | 17.4% | 33.9% |
| Somewhat difficult | 39.5% | 17.0% | 39.6% | 22.8% | 40.0% | 12.9% |
| Very difficult | 18.1% | 11.1% | 17.4% | 11.3% | 11.9% | 2.3% |
| Can't do at all | 25.1% | 9.5% | 23.5% | 9.9% | 11.1% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 4.0% | 30.2% | 4.9% | 25.5% | 12.0% | 11.6% |
| Rarely | 12.9% | 16.4% | 14.5% | 19.5% | 28.2% | 6.8% |
| Occasionally | 15.5% | 16.0% | 14.8% | 14.3% | 9.6% | 21.4% |
| Usually | 18.9% | 11.1% | 17.0% | 8.2% | 0.0% | 55.4% |
| Always | 48.7% | 26.3% | 48.8% | 32.5% | 50.1% | 4.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-13a: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Test**

| Dressing or Bathing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 83.2% | 62.8% | 57.9% | 40.4% | 13.4% | 0.8% |
| No | 16.8% | 37.2% | 42.1% | 59.6% | 86.6% | 99.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 3.2% | 5.5% | 4.3% | 7.1% | 16.3% | 49.5% |
| A little difficult | 10.5% | 34.0% | 13.5% | 36.0% | 46.8% | 21.7% |
| Somewhat difficult | 17.9% | 21.8% | 17.8% | 21.1% | 17.4% | 18.7% |
| Very difficult | 30.3% | 22.6% | 28.6% | 20.6% | 9.5% | 5.8% |
| Can't do at all | 38.1% | 16.1% | 35.7% | 15.2% | 10.0% | 4.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 1.1% | 2.7% | 1.4% | 3.1% | 5.7% | 2.3% |
| Rarely | 0.5% | 5.9% | 1.4% | 6.8% | 12.6% | 19.4% |
| Occasionally | 21.2% | 34.3% | 22.4% | 34.7% | 37.6% | 45.2% |
| Usually | 7.3% | 17.8% | 6.8% | 15.4% | 0.0% | 6.1% |
| Always | 69.8% | 39.4% | 68.0% | 40.0% | 44.1% | 27.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 5.7% | 19.9% | 7.9% | 21.8% | 32.7% | 58.4% |
| A little difficult | 18.5% | 23.4% | 20.1% | 25.4% | 37.3% | 27.1% |
| Somewhat difficult | 25.6% | 38.9% | 25.7% | 37.1% | 26.9% | 12.2% |
| Very difficult | 24.0% | 6.3% | 22.2% | 5.7% | 2.1% | 1.5% |
| Can't do at all | 26.2% | 11.5% | 24.1% | 10.0% | 1.1% | 0.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 2.8% | 1.5% | 3.1% | 2.4% | 8.5% | 5.5% |
| Rarely | 5.3% | 25.1% | 5.4% | 22.7% | 6.9% | 35.9% |
| Occasionally | 28.3% | 34.8% | 30.6% | 38.8% | 65.3% | 47.6% |
| Usually | 13.9% | 15.1% | 13.6% | 14.2% | 8.5% | 2.4% |
| Always | 49.7% | 23.5% | 47.3% | 21.9% | 10.8% | 8.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-13b: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Test (5-14)**

| Dressing or Bathing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 100.0% | 69.2% | 83.5% | 40.4% | 5.0% | 0.7% |
| No | 0.0% | 30.8% | 16.5% | 59.6% | 95.0% | 99.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 5.8% | 11.9% | 5.8% | 11.2% | 0.0% | 87.6% |
| A little difficult | 10.6% | 26.6% | 10.5% | 25.1% | 0.0% | 6.3% |
| Somewhat difficult | 9.5% | 17.4% | 9.4% | 16.5% | 0.0% | 4.9% |
| Very difficult | 41.6% | 17.4% | 41.2% | 16.5% | 0.0% | 1.3% |
| Can't do at all | 32.4% | 26.6% | 33.1% | 30.7% | 100.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Rarely | 0.0% | 30.2% | 0.0% | 28.3% | 0.0% | 20.1% |
| Occasionally | 6.2% | 0.0% | 6.1% | 0.0% | 0.0% | 20.1% |
| Usually | 5.1% | 19.8% | 5.0% | 18.5% | 0.0% | 49.7% |
| Always | 88.7% | 50.0% | 88.9% | 53.2% | 100.0% | 10.1% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 4.8% | 32.6% | 4.7% | 30.7% | 0.0% | 79.4% |
| A little difficult | 46.4% | 26.6% | 46.9% | 30.7% | 100.0% | 20.6% |
| Somewhat difficult | 9.5% | 23.4% | 9.4% | 22.1% | 0.0% | 0.0% |
| Very difficult | 6.9% | 0.0% | 6.8% | 0.0% | 0.0% | 0.0% |
| Can't do at all | 32.4% | 17.4% | 32.1% | 16.5% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Rarely | 0.0% | 39.5% | 0.0% | 36.3% | 0.0% | 39.4% |
| Occasionally | 11.1% | 0.0% | 11.0% | 0.0% | 0.0% | 60.6% |
| Usually | 11.1% | 34.7% | 11.0% | 31.9% | 0.0% | 0.0% |
| Always | 77.7% | 25.9% | 78.0% | 31.9% | 100.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-13c: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Test (15-64)**

| Dressing or Bathing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 78.5% | 62.3% | 50.5% | 37.8% | 6.7% | 0.7% |
| No | 21.5% | 37.7% | 49.5% | 62.2% | 93.3% | 99.3% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 1.3% | 5.7% | 1.2% | 5.3% | 0.0% | 48.9% |
| A little difficult | 13.1% | 32.6% | 14.7% | 33.6% | 45.3% | 27.4% |
| Somewhat difficult | 21.7% | 19.5% | 21.7% | 19.6% | 20.8% | 18.1% |
| Very difficult | 31.4% | 22.1% | 30.7% | 21.7% | 17.0% | 2.9% |
| Can't do at all | 32.5% | 20.1% | 31.7% | 19.8% | 17.0% | 2.6% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 0.2% | 3.0% | 0.2% | 2.7% | 0.0% | 1.4% |
| Rarely | 0.9% | 4.9% | 1.1% | 4.8% | 3.6% | 20.0% |
| Occasionally | 28.9% | 31.7% | 30.5% | 34.0% | 60.0% | 56.4% |
| Usually | 7.5% | 23.6% | 7.1% | 21.7% | 0.0% | 4.2% |
| Always | 62.5% | 36.8% | 61.1% | 36.8% | 36.4% | 17.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 1.7% | 21.0% | 3.5% | 22.2% | 37.7% | 52.0% |
| A little difficult | 22.1% | 12.5% | 22.2% | 13.4% | 24.5% | 31.6% |
| Somewhat difficult | 28.3% | 47.0% | 28.8% | 46.3% | 37.7% | 15.9% |
| Very difficult | 30.6% | 4.3% | 29.1% | 4.0% | 0.0% | 0.2% |
| Can't do at all | 17.2% | 15.2% | 16.4% | 14.1% | 0.0% | 0.2% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 2.2% | 1.8% | 2.2% | 1.6% | 0.0% | 4.3% |
| Rarely | 8.2% | 10.7% | 7.9% | 10.1% | 0.0% | 38.6% |
| Occasionally | 40.6% | 45.5% | 42.0% | 47.9% | 82.8% | 48.1% |
| Usually | 14.0% | 12.7% | 13.5% | 11.9% | 0.0% | 2.3% |
| Always | 35.0% | 29.3% | 34.4% | 28.5% | 17.2% | 6.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-13d: Presence fo Dress/Bathe Condition vs Answers to Detailed Questions, Test (65+)**

| Dressing or Bathing Condition | Test: Yes Followup: Yes | Test: No Followup: Yes | Test: Yes Followup: Any | One Yes One No | Test: Yes Followup: No | Test: No Followup: No |
|---|---|---|---|---|---|---|
| Does the person ever use the help of another person or special equipment to bathe or dress? | | | | | | |
| Yes | 85.7% | 63.2% | 63.7% | 44.3% | 23.5% | 1.5% |
| No | 14.3% | 36.8% | 36.3% | 55.7% | 76.5% | 98.5% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty bathing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 4.8% | 4.6% | 7.2% | 9.4% | 23.0% | 32.2% |
| A little difficult | 7.7% | 37.1% | 12.9% | 39.9% | 48.0% | 14.7% |
| Somewhat difficult | 15.3% | 26.0% | 15.5% | 23.5% | 16.3% | 27.1% |
| Very difficult | 26.7% | 23.8% | 24.1% | 19.4% | 6.7% | 15.2% |
| Can't do at all | 45.4% | 8.5% | 40.3% | 7.8% | 6.0% | 10.8% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to bathe? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 2.3% | 2.4% | 3.0% | 3.8% | 8.8% | 4.1% |
| Rarely | 0.2% | 5.4% | 2.1% | 8.0% | 17.7% | 18.0% |
| Occasionally | 15.5% | 41.2% | 16.7% | 38.1% | 26.3% | 26.0% |
| Usually | 7.5% | 8.2% | 6.7% | 6.5% | 0.0% | 5.9% |
| Always | 74.4% | 42.7% | 71.5% | 43.7% | 47.2% | 46.0% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| Difficulty dressing by yourself without assistance (if the person uses help from another person or special equipment) | | | | | | |
| Not difficult | 10.3% | 17.1% | 13.0% | 20.7% | 31.2% | 63.9% |
| A little difficult | 8.5% | 40.8% | 12.9% | 40.9% | 41.4% | 19.2% |
| Somewhat difficult | 25.9% | 27.1% | 25.5% | 26.0% | 23.0% | 8.8% |
| Very difficult | 20.3% | 10.1% | 18.0% | 8.3% | 3.0% | 5.3% |
| Can't do at all | 35.0% | 5.0% | 30.6% | 4.1% | 1.5% | 2.7% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| How frequently do you use assistance to dress? (if the person reported "a little difficulty" or more) | | | | | | |
| Never | 4.1% | 1.2% | 4.9% | 3.6% | 11.9% | 11.0% |
| Rarely | 3.0% | 46.3% | 3.7% | 38.2% | 9.7% | 26.2% |
| Occasionally | 17.2% | 20.6% | 21.6% | 29.3% | 60.1% | 42.4% |
| Usually | 14.4% | 17.5% | 14.1% | 16.2% | 11.9% | 3.4% |
| Always | 61.4% | 14.4% | 55.7% | 12.7% | 6.5% | 16.9% |
| Total | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |

**Appendix C-14a: Presence of Cognitive Condition vs Answers to Detailed Questions, Control**

| Cognitive Condition | Control: Yes Followup: Yes | Control: No Followup: Yes |
|---|---|---|
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Learning | 51.6% | 30.1% |
| Remembering | 72.5% | 62.9% |
| Concentrating | 65.1% | 55.3% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 0.7% | 1.7% |
| Hearing problem | 1.2% | 1.3% |
| Mental retardation | 11.9% | 0.9% |
| Developmental problem (e.g. cerebral palsy/autism) | 5.7% | 6.0% |
| Senility or Alzheimer's | 0.9% | 0.8% |
| Depression/anxiety/emotional problem | 18.1% | 14.1% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 47.6% | 47.6% |
| Other | 28.7% | 37.2% |

**Appendix C-14b: Presence of Cognitive Condition vs Answers to Detailed Questions, Control (5-14)**

| Cognitive Condition | Control: Yes Followup: Yes | Control: No Followup: Yes |
|---|---|---|
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Learning | 66.1% | 31.7% |
| Remembering | 47.2% | 24.0% |
| Concentrating | 84.6% | 89.5% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Hearing problem | 2.5% | 1.5% |
| Mental retardation | 1.8% | 0.0% |
| Developmental problem (e.g. cerebral palsy/autism) | 11.3% | 14.1% |
| Senility or Alzheimer's | 0.3% | 0.0% |
| Depression/anxiety/emotional problem | 10.8% | 2.4% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 64.7% | 84.0% |
| Other | 27.5% | 15.0% |

**Appendix C-14c: Presence of Cognitive Condition vs Answers to Detailed Questions, Control (15-64)**

| Cognitive Condition | Control: Yes Followup: Yes | Control: No Followup: Yes |
|---|---|---|
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Learning | 57.2% | 33.2% |
| Remembering | 68.5% | 58.8% |
| Concentrating | 72.4% | 53.3% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 1.5% | 2.2% |
| Hearing problem | 0.0% | 1.4% |
| Mental retardation | 22.1% | 1.7% |
| Developmental problem (e.g. cerebral palsy/autism) | 0.7% | 1.9% |
| Senility or Alzheimer's | 0.0% | 0.0% |
| Depression/anxiety/emotional problem | 26.1% | 25.8% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 36.3% | 34.9% |
| Other | 24.2% | 38.8% |

**Appendix C-14d: Presence of Cognitive Condition vs Answers to Detailed Questions, Control (65+)**

| Cognitive Condition | Control: Yes Followup: Yes | Control: No Followup: Yes |
|---|---|---|
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Learning | 32.2% | 23.4% |
| Remembering | 93.9% | 89.7% |
| Concentrating | 39.5% | 42.7% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 0.0% | 3.8% |
| Hearing problem | 0.0% | 0.0% |
| Mental retardation | 12.2% | 0.0% |
| Developmental problem (e.g. cerebral palsy/autism) | 0.0% | 0.0% |
| Senility or Alzheimer's | 12.2% | 6.3% |
| Depression/anxiety/emotional problem | 12.2% | 0.8% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 0.0% | 0.0% |
| Other | 75.7% | 89.1% |

**Appendix C-15a: Presence of Cognitive Condition vs Answers to Detailed Questions, Test**

| Cognitive Condition | Test: Yes Followup: Yes | Test: No Followup: Yes |
|---|---|---|
| Do you have a learning disability? | | |
| Yes | 53.0% | 32.1% |
| No | 47.0% | 67.9% |
| Total | 100.0% | 100.0% |
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Concentrating | 71.1% | 58.2% |
| Remembering | 74.6% | 62.5% |
| Making decisions | 60.9% | 40.2% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 5.0% | 0.2% |
| Hearing problem | 0.0% | 0.2% |
| Mental retardation | 11.8% | 1.0% |
| Developmental problem (e.g. cerebral palsy/autism) | 6.5% | 5.7% |
| Senility or Alzheimer's | 5.7% | 0.2% |
| Depression/anxiety/emotional problem | 17.5% | 24.6% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 32.4% | 40.7% |
| Other | 36.5% | 39.3% |

**Appendix C-15b: Presence of Cognitive Condition vs Answers to Detailed Questions, Test (5-14)**

| Cognitive Condition | Test: Yes Followup: Yes | Test: No Followup: Yes |
|---|---|---|
| Do you have a learning disability? | | |
| Yes | 86.8% | 55.3% |
| No | 13.2% | 44.7% |
| Total | 100.0% | 100.0% |
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Concentrating | 96.7% | 89.1% |
| Remembering | 58.5% | 31.1% |
| Making decisions | 54.3% | 33.1% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 1.2% | 0.0% |
| Hearing problem | 0.0% | 0.0% |
| Mental retardation | 5.1% | 2.3% |
| Developmental problem (e.g. cerebral palsy/autism) | 7.3% | 5.6% |
| Senility or Alzheimer's | 0.0% | 0.0% |
| Depression/anxiety/emotional problem | 4.9% | 14.6% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 55.0% | 60.0% |
| Other | 41.0% | 35.7% |

**Appendix C-15c: Presence of Cognitive Condition vs Answers to Detailed Questions, Test (15-64)**

| Cognitive Condition | Test: Yes Followup: Yes | Test: No Followup: Yes |
|---|---|---|
| Do you have a learning disability? | | |
| Yes | 51.9% | 31.1% |
| No | 48.1% | 68.9% |
| Total | 100.0% | 100.0% |
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Concentrating | 70.9% | 57.5% |
| Remembering | 74.3% | 67.2% |
| Making decisions | 62.0% | 45.0% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 8.3% | 0.4% |
| Hearing problem | 0.0% | 0.2% |
| Mental retardation | 7.5% | 0.2% |
| Developmental problem (e.g. cerebral palsy/autism) | 7.9% | 6.3% |
| Senility or Alzheimer's | 0.0% | 0.2% |
| Depression/anxiety/emotional problem | 28.7% | 33.3% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 29.0% | 31.6% |
| Other | 38.9% | 37.1% |

**Appendix C-15d: Presence of Cognitive Condition vs Answers to Detailed Questions, Test (65+)**

| Cognitive Condition | Test: Yes Followup: Yes | Test: No Followup: Yes |
|---|---|---|
| Do you have a learning disability? | | |
| Yes | 38.4% | 13.4% |
| No | 61.6% | 86.6% |
| Total | 100.0% | 100.0% |
| Which type of activity is difficult? (if reported earlier that this was a difficulty) | | |
| Concentrating | 58.0% | 34.2% |
| Remembering | 83.8% | 75.7% |
| Making decisions | 61.7% | 32.5% |
| None | 0.0% | 0.0% |
| What conditions or health problems caused the difficulty? (if anything but "none" of the activities are difficult) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Hearing problem | 0.0% | 2.1% |
| Mental retardation | 41.8% | 0.0% |
| Developmental problem (e.g. cerebral palsy/autism) | 0.0% | 0.0% |
| Senility or Alzheimer's | 38.7% | 2.1% |
| Depression/anxiety/emotional problem | 0.9% | 0.0% |
| Attention Deficit Hyperactivity Disorder (ADHD) | 0.0% | 9.3% |
| Other | 18.6% | 86.6% |

**Appendix C-16a: Presence of Problem Going Outside vs Answers to Detailed Questions, Control**

| Problem Going Outside | Control: Yes Followup: Yes | Control: No Followup: Yes |
|---|---|---|
| What conditions or health problem caused the difficulty? (if reported earlier that this was a difficulty) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Arthritis/rheumatism | 45.1% | 16.5% |
| Back or neck problem | 0.0% | 0.0% |
| Other injury | 0.0% | 0.0% |
| Heart problem | 45.1% | 0.0% |
| Stroke problem | 0.0% | 0.0% |
| Hypertension/high blood pression | 0.0% | 0.0% |
| Diabetes | 0.0% | 0.0% |
| Lung/breathing problem (e.g. asthma/emphysema) | 0.0% | 1.8% |
| Depression/anxiety/emotional problem | 45.1% | 11.8% |
| Weight problem | 0.0% | 0.0% |
| Missing limbs (fingers, toes, or digits), amputee | 0.0% | 0.0% |
| Multiple Sclerosis (MS), Muscular Dystrophy (MD) | 0.0% | 0.0% |
| Polio (myelitis), paralysis, para/quadriplegia | 0.0% | 0.0% |
| Other | 9.8% | 69.9% |

**Appendix C-16b: Presence of Problem Going Outside vs Answers to Detailed Questions, Control (15-64)**

| Problem Going Outside | Control: Yes Followup: Yes | Control: No Followup: Yes |
|---|---|---|
| What conditions or health problem caused the difficulty? (if reported earlier that this was a difficulty) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Arthritis/rheumatism | 0.0% | 0.0% |
| Back or neck problem | 0.0% | 0.0% |
| Other injury | 0.0% | 0.0% |
| Heart problem | 0.0% | 0.0% |
| Stroke problem | 0.0% | 0.0% |
| Hypertension/high blood pression | 0.0% | 0.0% |
| Diabetes | 0.0% | 0.0% |
| Lung/breathing problem (e.g. asthma/emphysema) | 0.0% | 0.0% |
| Depression/anxiety/emotional problem | 100.0% | 28.4% |
| Weight problem | 0.0% | 0.0% |
| Missing limbs (fingers, toes, or digits), amputee | 0.0% | 0.0% |
| Multiple Sclerosis (MS), Muscular Dystrophy (MD) | 0.0% | 0.0% |
| Polio (myelitis), paralysis, para/quadriplegia | 0.0% | 0.0% |
| Other | 0.0% | 71.6% |

**Appendix C-16b: Presence of Problem Going Outside vs Answers to Detailed Questions, Control (65+)**

| Problem Going Outside | Control: Yes Followup: Yes | Control: No Followup: Yes |
|---|---|---|
| What conditions or health problem caused the difficulty? (if reported earlier that this was a difficulty) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Arthritis/rheumatism | 82.1% | 28.2% |
| Back or neck problem | 0.0% | 0.0% |
| Other injury | 0.0% | 0.0% |
| Heart problem | 82.1% | 0.0% |
| Stroke problem | 0.0% | 0.0% |
| Hypertension/high blood pression | 0.0% | 0.0% |
| Diabetes | 0.0% | 0.0% |
| Lung/breathing problem (e.g. asthma/emphysema) | 0.0% | 3.1% |
| Depression/anxiety/emotional problem | 0.0% | 0.0% |
| Weight problem | 0.0% | 0.0% |
| Missing limbs (fingers, toes, or digits), amputee | 0.0% | 0.0% |
| Multiple Sclerosis (MS), Muscular Dystrophy (MD) | 0.0% | 0.0% |
| Polio (myelitis), paralysis, para/quadriplegia | 0.0% | 0.0% |
| Other | 17.9% | 68.7% |

**Appendix C-17a: Presence of Problem Going Outside vs Answers to Detailed Questions, Test**

| Problem Going Outside | Test: Yes Followup: Yes | Test: No Followup: Yes |
|---|---|---|
| What conditions or health problem caused the difficulty? (if reported earlier that this was a difficulty) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Arthritis/rheumatism | 8.6% | 19.4% |
| Back or neck problem | 6.3% | 17.4% |
| Other injury | 0.0% | 0.0% |
| Heart problem | 10.3% | 1.3% |
| Stroke problem | 3.4% | 0.0% |
| Hypertension/high blood pression | 1.2% | 2.7% |
| Diabetes | 1.2% | 6.0% |
| Lung/breathing problem (e.g. asthma/emphysema) | 1.2% | 6.0% |
| Depression/anxiety/emotional problem | 20.0% | 20.9% |
| Weight problem | 3.5% | 0.0% |
| Missing limbs (fingers, toes, or digits), amputee | 0.0% | 0.0% |
| Multiple Sclerosis (MS), Muscular Dystrophy (MD) | 0.0% | 0.0% |
| Polio (myelitis), paralysis, para/quadriplegia | 0.0% | 0.0% |
| Other | 74.3% | 51.0% |

**Appendix C-17b: Presence of Problem Going Outside vs Answers to Detailed Questions, Test (15-64)**

| Problem Going Outside | Test: Yes Followup: Yes | Test: No Followup: Yes |
|---|---|---|
| What conditions or health problem caused the difficulty? (if reported earlier that this was a difficulty) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Arthritis/rheumatism | 9.1% | 11.1% |
| Back or neck problem | 7.7% | 15.1% |
| Other injury | 0.0% | 0.0% |
| Heart problem | 6.3% | 2.0% |
| Stroke problem | 4.1% | 0.0% |
| Hypertension/high blood pression | 1.4% | 4.0% |
| Diabetes | 1.4% | 0.0% |
| Lung/breathing problem (e.g. asthma/emphysema) | 0.0% | 0.0% |
| Depression/anxiety/emotional problem | 20.4% | 22.4% |
| Weight problem | 4.2% | 0.0% |
| Missing limbs (fingers, toes, or digits), amputee | 0.0% | 0.0% |
| Multiple Sclerosis (MS), Muscular Dystrophy (MD) | 0.0% | 0.0% |
| Polio (myelitis), paralysis, para/quadriplegia | 0.0% | 0.0% |
| Other | 81.8% | 64.5% |

**Appendix C-17c: Presence of Problem Going Outside vs Answers to Detailed Questions, Test (65+)**

| Problem Going Outside | Test: Yes Followup: Yes | Test: No Followup: Yes |
|---|---|---|
| What conditions or health problem caused the difficulty? (if reported earlier that this was a difficulty) | | |
| Vision/problem seeing | 0.0% | 0.0% |
| Arthritis/rheumatism | 6.3% | 36.0% |
| Back or neck problem | 0.0% | 22.0% |
| Other injury | 0.0% | 0.0% |
| Heart problem | 28.2% | 0.0% |
| Stroke problem | 0.0% | 0.0% |
| Hypertension/high blood pression | 0.0% | 0.0% |
| Diabetes | 0.0% | 18.0% |
| Lung/breathing problem (e.g. asthma/emphysema) | 6.3% | 18.0% |
| Depression/anxiety/emotional problem | 18.5% | 18.0% |
| Weight problem | 0.0% | 0.0% |
| Missing limbs (fingers, toes, or digits), amputee | 0.0% | 0.0% |
| Multiple Sclerosis (MS), Muscular Dystrophy (MD) | 0.0% | 0.0% |
| Polio (myelitis), paralysis, para/quadriplegia | 0.0% | 0.0% |
| Other | 40.8% | 24.1% |