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MEMORANDUM FOR Distribution List

From:	Susan Schechter [<i>signed 9/15/09</i>] Chief, American Community Survey Office
Subject:	Final Results – Respondent Effects Associated with Questionnaires Designed to Accommodate Survey Processing
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Attached are the final results of an evaluation on the effect of changes that were made to the ACS questionnaire in 2007 to accommodate the shift from key-from-paper (KFP) to key-fromimage (KFI) data capture methods. This evaluation also includes results from an initial test that was conducted in 2005 that identified higher than expected levels of respondent error. The results from this initial test had a major impact on the changes made to the design of the basic demographic section (matrix portion) of the 2007 ACS mail questionnaire.

The goal of this research was to determine if there were any lingering respondent completion issues associated with any of the changes that were made to the 2007 ACS production questionnaire. The research concluded that respondents completed the redesigned 2007 ACS KFI questionnaire in much the same way as they completed the 2006 ACS KFP questionnaire.

Major findings:

- The initial design changes to the matrix portion of the 2005 test questionnaire resulted in large increases in the levels of item nonresponse for three questions marital status, Hispanic Origin, and race. Based on these test results, the matrix portion was redesigned for the 2007 questionnaire and these increases were essentially eliminated.
- The increased level of item nonresponse noted in the initial 2005 test for the sex item remained high on the 2007 questionnaire.
- The minor design changes to the check boxes and write-in boxes had minimal effects on respondent behavior in completing the 2007 ACS questionnaire.
- In 2006 and 2007, high levels of item nonresponse (greater than 50%) were detected for the write-in entries of country for the migration question. This question may warrant field-testing to improve its performance.

Attachment

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Respondent Effects Associated with Questionnaires Designed to Accommodate Survey Processing

FINAL REPORT

USCENSUSBUREAU

Helping You Make Informed Decisions

DEBORAH H. GRIFFIN SANDRA L. CLARK AMERICAN COMMUNITY SURVEY OFFICE

Respondent Effects Associated with Questionnaires Designed to Accommodate Survey Processing

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Presented at the annual conference of the American Association for Public Opinion Research Hollywood, FL May 14 –17, 2009

This paper reports the results of research and analysis undertaken by Census Bureau staff. It has undergone a more limited review than official Census Bureau publications. The report is released to inform interested parties of research and to encourage discussion.

Abstract

Survey managers acknowledge that paper questionnaires must be designed to accommodate the requirements of data capture systems. It is important, however, to recognize that such design elements can have an effect on respondent behavior. This paper reminds us that even fairly minor changes in the format of a questionnaire can jeopardize successful completion by respondents. In 2005, the paper questionnaire used in the American Community Survey was redesigned to transition from a key-from-paper to an imaging and key-from-image (KFI) data capture methodology. On the surface the proposed changes appeared fairly minor--adding additional white space and removing horizontal lines between questions. The KFI system experts proposed most of the changes and little attention was given to possible respondent implications. The Census Bureau conducted a pretest of this revised questionnaire and analysis of the results identified an increase in nonresponse for selected questions. A closer review of the changes identified the potential for respondent navigation errors. A questionnaire design team was established to redesign this questionnaire to meet technical KFI requirements and address respondent visual miscues apparent in the new questionnaire. This paper reports on the test of the initial and redesigned forms. It provides a valuable lesson in the need to pay attention to both the technical requirements and the visual dynamics of respondent-administered survey instruments.

Introduction

The American Community Survey (ACS) is a mixed mode survey conducted by the U.S. Census Bureau that produces annual demographic, housing, social, and economic characteristics for the nation, states, counties, and areas as small as census tracts and block groups. The ACS began national implementation in 2000 and expanded in 2005 from a demonstration stage annual sample of about 800,000 to an approximate 3 million annual sample. The first mode of data collection in the ACS is mail. The mail questionnaire includes about 105 questions (or parts of questions) that require responses in the form of both check boxes and write-ins.

Of the 230,000 questionnaires mailed each month, about 106,000 are completed and returned by mail. The workload for data capture therefore includes about 1.3 million questionnaires every year. Significant data capture backlogs were experienced in 2005 due to the large sample size increase. To reduce overall costs and improve the efficiency of data capture operations, the Census Bureau decided to shift from a key-from-paper (KFP) data capture system to an integrated Computer-Assisted Data Entry (iCADE) system. The iCADE system combines optical mark recognition and software-directed keying of write-in entries from digital images produced by scanning the paper forms.

While the questionnaire formatting requirements for KFP were limited, the iCADE system required several revisions to the form to facilitate the software's correct orientation and interpretation of responses. These revisions are the focus of this paper. Two attempts were needed to ensure that changes in questionnaire design to accommodate survey processing did not influence respondent behavior in correctly completing the questionnaire.

Background

A well-designed questionnaire will facilitate respondent navigation and make it more likely that respondents complete the questionnaire as intended. A set of design principles for self-administered questionnaires is proposed in Dillman (2000). Several of his principles speak to the need to define a clear navigational path and create respondent visual navigation guides. The choice of data capture method should never interfere with the ability to meet these principles. While survey designers need to consider processing requirements, they should never choose a questionnaire design that fulfils those requirements at the expense of the respondent.

The task of completing a mail questionnaire is a visual exercise. The visual design of the questionnaire is therefore central to successful completion of this task by a survey respondent. Jenkins and Dillman (1997) stress the value of designs that follow natural reading and comprehension processes to make sense of visual information. These processes are founded in the concepts of basic Gestalt psychology. Of the seven design principles proposed in Norman (1988), the principle most relevant to this research is the need to make the task clearly visible through the use of visual layouts that clarify the sequence of tasks and the placement of responses. Research has demonstrated that alternative questionnaire formats influence respondent behavior and ultimately, respondent success. For examples, see Redline, Dillman, Dajani, and Scaggs (2003) and Christian and Dillman (2004).

A survey questionnaire, such as the one used in the mail mode of the ACS, relies on verbal, symbolic, numeric, and graphical languages to explain the respondent's task. See Redline and Dillman (2002) for more information on these visual languages. The graphical language, including the format, spatial presentation, use of color and shapes, were manipulated in this redesign effort.

Self-administered questionnaires use multiple conventions to collect respondent information. This paper looks at the use of a matrix or grid that includes questions requiring a check box response, a write-in entry, or both a check box and write-in response. The paper also analyzes data collected without a grid that have the same three types of questions.

Matrix/Grid Formats

The ACS collects data for all persons in a household. Up until 2008, basic demographic data in the ACS were collected in a matrix where a series of questions were listed across the top of the page and household members were listed down the left side of the page. Respondents were supposed to answer each question for each individual by reading the question once and providing responses for all household members. Based on testing in 2006, the format for collecting basic demographic data was changed to a "sequential" style (Chesnut, 2008). It is this matrix design that was changed the most in the data capture system transition. Similar matrix designs are often used in self-administered questionnaires to save space. Dillman, Smyth, and Christian (2009) acknowledge the inherent complexities of matrix-formatted questionnaires. In particular, they note that, "the structure of the matrix leaves it up to the respondent as to whether to navigate the matrix and fill in answers primarily in columns or in rows or some combination of both." Questionnaire design efforts can improve or complicate respondent horizontal or vertical navigation. Dillman, Gertseva, and Mahon-Haft (2005) summarized the visual design principles used to support redesigned matrices in the United State Department of Agriculture's Agricultural Resource Management Survey. They encouraged respondent navigation with numerous visual cues including the addition of dark horizontal lines and the use of reverse print. Changes were made to these survey forms to facilitate improved respondent navigation across a matrix but no formal testing was undertaken to provide empirical data on the effect of those changes.

Check box and Write-in Box Formats

All other questions on the 2006 and 2007 ACS questionnaire were presented in a sequential format. Housing questions were posed first, followed by detailed population questions that were asked for each person in the household. Attachment 1 provides copies of the full ACS questionnaires used for this analysis. There are three basic styles of questions used in the ACS – questions with check box responses, questions with write-in boxes for responses, and questions with a combination of the two. For our analysis the latter category involves questions where a write-in is only required if a certain check box response is selected. This paper summarizes the questionnaire design changes that were made to each of these types of questions in the shift to an iCADE data capture system and a comparison of the differences that were noted in item nonresponse.

Tests of Redesigned Matrix

Initial Test

Design Changes

Several questionnaire design changes were needed to shift from a KFP data capture system to one based in iCADE. A team of iCADE engineers redesigned the 2005 ACS questionnaire to accommodate iCADE data processing requirements. This initial iCADE questionnaire (iCADE1) reflected significant changes to the 2-page grid (or matrix) designed for the collection of names and basic demographic data (sex, age, relationship, marital status, race, and Hispanic origin/ethnicity.) Borders and grid lines were altered and a white margin was added between the two pages. Figures 1a and 1b display the 2-page grid for the KFP form and the iCADE form.

Note that the thick border running across the top of the page was eliminated in iCADE1. The grid lines that were originally black were replaced with light green lines in the redesigned iCADE1 form. Major changes were made to the centerfold area—iCADE1 added a black line border around each page and a white margin between the two pages.



Figure 1a. KFP questionnaire 2-page grid

Figure 1b. iCADE1 questionnaire 2-page grid



What is this person's markal status?	NOTE: Please answer BOTH Questions is this person Spanish/Hispanic/ Latino? Mark (X) the "No" box if not Spanish/HispanicLatino.	s and 6. What is this person's race? Ma person considers himsettherset t	rk (X) one or more to be.	races to indicate what this
Now married Widowed Disconed Separated Never married	No. not Spanish Wile praise Laino Yee, Masican, Macican Am, Chicano Yee, Cuban Rican Yee, Cuban Yee, Cuban Spanish Nispanish Latino – Print group: 7	White Had or African American Had or African American Armetican Indian or Afada Harve – Print name of enrolled or principal titles _p	Asian Indian Chinese Chinese Filipino Japanese Vistamese Other Asian Print race.	Native Hamilian Guarmarian or Chamorro Samoan Other Paolis Hander – Print race below. Some other race – Print race below. 7
Now married Widowed Divorsed Separated Never married	No, not Spanish Winganistaino No, Not Spanish Winganistaino You, Nukaina, Maxisa Am, Chicano You, Outan Bian You, Outan You, Outan	White Hack or African American Hack or African American American Indian or Alada Anarova – Programs of annolud or principal inbut 7	Asian Indian Chinasa Filipino Japanasa Korean Vatnamasa Other Asian Aitor race.	Native Harmian Gamazian er Chamorro Sanoan Other Paolie Hander – Print rese balow Some other noce – Print rase balow, ₂₇
Nov married Widowed Divorsed Separated Nover married	No, not Spanish/Wapanistutino Yun, Mexica, Mexica Am, Chicano Yan, Was Roan Yan, Onto Roan Yan, Onto Roan Yan, Onto Spanish/Wapanisi Linico – Print prop. 17	White Black or African American Brack or African American Annove, Thorp same of annolled or principal mbia. 7	Asian Indian Chinese Filipino Japanese Korean Viatnamese Other Asian – Atternese	I Native Hennian Gumanian er Ohamorro Sancan Other Pacific Mander – Print roca balton, Jonna other roca – Print roca balton, Jonna other roca – Print roca balton,
Now manised Nowed Nowed Dirotted Separated Never matried	No, not Spanish/Kinpunistusino Yue, Mexica, Mexica Am, Chicano Yue, Nuen Rice Rice Yee, Colum Yee, Colum Yee, Colum Spanish/Kinpunist Latrico – Print group: gr	White Hick or African American Harves a locate or Alada Narve - Print same of annolid or principal mba. 2	Asian Indian Chinese Filipino Japanese Korean Vietnamese Other Asian Rist race.	I Native Hennikan Gustanarikan er Chamorro Samoan Othar Paolio Idander – Print race baltow, Jonna othar race – Print race baltow, Soma othar race – Print race baltow, J
Nov married Widowed Discred Separated Never married	No, not Spanish/Kiopunistaino Yue, Maxiesa Maxiesa Am, Chicano Yue, Navesa Bican Yue, Paesa Bican Yue, Ostar Spanish/Kiopunish Latino – Print grange, gr	White Hisk or African American Hisk or African American American Indian or Alada Native - Prot name of enrolled or principal inba. 2	Asian Indian Chinese Chinese Jipino Japanese Korean Oher Asian Philophyse	Notive Hermänn Gumanian er Chamorro Sonnan Other Paoliic Mander – Print roce balow. 7 Sonne other roce – Print roce balow. 7
Person 9 Last Name Plaze pri	Person 10 Last Name (Please prin	Porson 11 to Last Name (Please)	print)	Person 12 Last Name (Please print)
First Name	MI First Name	Mi First Name		Rist Name M

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When you are finished, turn the page and continue with the Housing section.

In November 2005, an experimental sample panel of 49,702 addresses was used to test this initial iCADE questionnaire. All addresses in this panel received the initial iCADE questionnaire shown in Figure 1b (iCADE1). The ACS production sample of 227,046 addresses for November 2005 was used as the control with all addresses receiving the 2005 KFP questionnaire shown in Figure 1a (KFP1). Both mailings followed identical schedules and mailing strategies that included an advance letter, initial mailing package (with a questionnaire), reminder postcard, and replacement-mailing package (with a second questionnaire) that was mailed to nonrespondents only. To eliminate potential effects of data capture method, the mail-returned questionnaires from both panels were data captured using identical KFP procedures. The experimental sample panel only used the mail mode for data collection and not telephone and personal visit as in the production ACS. For this reason, we only included mail returns before the start of the telephone phase for production ACS and the first month of returns for the experimental sample panel.

Unedited data from mail returned questionnaires were used to produce item nonresponse rates. The item nonresponse rates for this analysis are defined as the ratio of the number of valid responses to the number of questions requiring a response. All item nonresponse rates are weighted to reflect the ACS sample design. Statistical testing was conducted using a 90 percent confidence level.

Results

A quick tabulation of item nonresponse rates for selected questions revealed increases in item nonresponse for the questions included in the 2-page grid. See Table 1. Item nonresponse rates for all six questions were found to be significantly higher for the iCADE1 questionnaire. The three questions on page 3, the right-hand page (marital status, Hispanic origin/ethnicity, and race) were especially elevated.

Table 1. Item Nonresponse Rates for Questions Included in the Grid						
Question	Γ		Difference	Statistical Significance*		
	KFP1	iCADE1	(iCADE1-KFP1)	-		
	(%)	(%)	(%)			
Page 2 (left of fold)						
Sex	4.0	6.2	2.2	Yes		
Age	2.4	3.4	1.0	Yes		
Relationship	2.5	3.0	0.5	Yes		
Page 3 (right of fold)						
Marital Status	5.1	9.6	4.5	Yes		
Hispanic origin	7.5	13.3	5.8	Yes		
Race	6.3	10.8	4.5	Yes		

*Statistical significance tested at the 90 percent confidence level

A review of the initial iCADE questionnaire concluded that the changes in format introduced navigation problems. The 2-page matrix design requires respondents to match rows and columns across two pages. The iCADE1 design reduced respondent visual cues linking these two pages. It removed the thick border at the top and bottom of these pages that served to link the pages together. The boxing of the questionnaire area on each page, which was added to assist optical scanning, separated pages 2 and 3. The increased white space at the centerfold reinforced the separateness of the two pages.

In addition, the redesign removed several navigation guides that are critical to successful matrix completion—elements conveying that the pages must be read both vertically and horizontally. Specifically, horizontal and vertical lines connecting the questions at the top of each column with

the persons in each row were visually diminished. Respondents got lost navigating the questionnaire and many skipped over the questions on page 3.

As a consequence, the Census Bureau decided to delay the shift to iCADE data capture and redesign efforts were undertaken that would accommodate iCADE-processing requirements without a negative effect on respondent behavior. Staff acknowledged the complexity of the 2-page matrix design, especially for respondents to accurately navigate to the questions on page 3. In 2006 the ACS continued using a KFP questionnaire, identical in content and format to the one used in 2005.

Second Test

Design Changes

Using the information gleaned from the pre-test, a second team that included iCADE engineers, survey methodologists, and questionnaire design experts redesigned the form, which was put into production in 2007. This redesign was focused on improving horizontal and vertical navigation and reinforcing the connection between page 2 and page 3. Figure 1c displays the 2-page grid for this second iCADE form (iCADE2). Specifically, to more clearly connect the two pages, where iCADE1 eliminated the thick border at the top of the page, a narrower border was added back in iCADE2. With respect to the centerfold area, iCADE2 retained the black line around each page but replaced the white margin with a green column to mimic the other grid columns. Both of these visual changes are based in Gestalt psychology, recognizing that our vision uses borders, edges, and patterns to establish groupings. Here we minimized the strong design elements that created two separate groupings (i.e., boxes) across the two pages. The Law of Proximity also supports these changes—visual elements closets together are seem as belonging together. The two pages are brought closer together by these format changes.

In addition, to improve horizontal and vertical navigation, iCADE2 restored the black grid lines that iCADE1 had replaced as light green and iCADE2 also added alternate shadings of green across rows of the grid to more clearly define horizontal organization.



Figure 1c. iCADE2 questionnaire 2-page grid

	CADE1	CADES
	ICADEI	ICADE2
op grid borders	Thick border was replaced with a black line border	The thick border was added back, but reduced in width.
ide grid borders	A black line border was added to the right and left sides of each page	Same as iCADE1
nterior grid lines	Lighter, green grid lines were added to replace the black horizontal and vertical grid lines	The black horizontal and vertical grid lines were added back
Center margin	A white margin was added to the centerfold area	The white margin was replaced with a green column to mimic the other grid columns
Bottom grid borders,	Thick border was replaced with a	Same as iCADE1
arcodes, and page identifiers	black line border, barcodes and page identifiers were added to each	
ide grid borders nterior grid lines Center margin Bottom grid borders, Parcodes, and page identifiers	A black line border was added to the right and left sides of each page Lighter, green grid lines were added to replace the black horizontal and vertical grid lines A white margin was added to the centerfold area Thick border was replaced with a black line border, barcodes and page identifiers were added to each page	Same as iCADE1 The black horizontal and vertic grid lines were added back The white margin was replaced with a green column to mimic other grid columns Same as iCADE1

Table 2. Summary of Grid Formatting Changes

Methodology

Timing constraints precluded pre-testing the revised questionnaire. The redesigned iCADE questionnaire shown in Figure 1c (iCADE2) was mailed to the full ACS sample beginning in January 2007. The iCADE questionnaire used in 2007 was identical in content to the 2006 KFP questionnaire (KFP2), which was identical in content and format to the November 2005 KFP questionnaire used as the control for the initial experiment (KFP1). Mail returns received from the January through April 2007 sample panels were all captured using the same data capture procedures used in 2006. For this reason, we chose to compare mail returns from January through April of 2007 with mail returns from January through April of 2007 with mail returns from January through April of 2007. As was true for the first experiment, both mailings followed identical schedules and strategies and all mail-returned questionnaires were captured using the same methods (key from paper). While this design does not control for possible differences in respondent behavior due to the year, we do not expect this to be a major limitation.

Unedited data from mail returned questionnaires were used to produce item nonresponse rates. Item nonresponse rates were calculated using the same definitions and methods used in the initial test. Our hypothesis was that the design changes would facilitate respondent navigation across the two pages and would therefore result in a reduction in the levels of item nonresponse, especially for the items on page 3.

Results

Table 3 shows comparisons of item nonresponse for the KFP questionnaire with the redesigned iCADE questionnaire. The iCADE questionnaire continued to show increases in the item nonresponse rates for sex but for all other questions the increases in nonresponse that were found in the initial iCADE form were reduced or eliminated.

Question	1		Difference	Statistical Significance*
	KFP2	iCADE2	(iCADE2-KFP2)	C
	(%)	(%)	(%)	
Page 2 (left of fold)				
Sex	4.2	6.6	2.5	Yes
Age	2.5	2.7	0.1	
Relationship	2.5	2.5	0.0	
Page 3 (right of fold)				
Marital Status	5.1	5.2	0.2	Yes
Hispanic origin	7.5	7.6	0.1	Yes
Race	6.5	6.5	0.0	

Table 3. Item Nonresponse Rates for Questions Included in th	ıe Gri	id
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*Statistical significance tested at the 90 percent confidence level

The reduction in the nonresponse rates for the marital status, Hispanic origin, and race items can be attributed to the changes made to the redesigned iCADE questionnaire. The results suggest that the navigational flow of the form was improved. The darker grid lines (as shown on the redesigned iCADE questionnaire in Figure 1c) helped separate the questions, and clarify the person rows. The flow directing the respondent to page three was enhanced by the addition of the green columns in the centerfold, as well as, the re-addition of the border running across the top of both pages. The improved navigation in the redesigned iCADE form lead respondents to the items on page three, rather than losing them, as the initial iCADE questionnaire seemed to do (shown in Figure 1b).

The higher nonresponse rate for the sex item is somewhat puzzling. This rate was 2.5 percentage points higher than the rate from the KFP questionnaire, similar to the difference found in the test of the initial iCADE form. This finding suggests that the changes to the gridlines on both iCADE questionnaires did not have an affect on response patterns for this question.

The sex item is the first question on the form, and it is different than the other check box responses of its size. For example, it is the only item with two response categories where the categories are not a "yes/no" response. In addition, the space between the question and the response categories is the largest on the questionnaire. For these reasons, it is possible that this item could have been affected differently than the other questions requiring check box responses. Response may have been impacted by the "halos" surrounding the check boxes, or the difference in font. The checkboxes themselves are also slightly different – the corners of the boxes are rounded in the KFP version and square in the iCADE version, and the line border is slightly thicker in the KFP version. The sex item may have also been affected by the changes to the write-in boxes are slightly larger and have black borders, which may draw greater attention to those items. Respondent's vision may be directed to these items and away from the sex item, forcing them to skip the sex item entirely. Overall, the sex item seems to be more delimitated in the KFP version and seems to blend in with the other items in the iCADE versions.

Interestingly, when a slightly different ACS grid design was compared with the ACS sequential design (Chesnut, 2008) the sex question was moved to be the second question asked, not the first. In this location the item nonresponse (even in a grid) was reduced to 2.2 percent.

Test of Redesigned Check Boxes

In the 2006 and 2007 ACS, 18 housing questions and 32 population questions required only a check box response. These questions did not involve a check box as a screener to request a writein. Many of these questions were simple "Yes/No" responses, while others included a long sequence of response categories. Three of these questions (sex, relationship, and marital status) were on the 2-page grid and have already been discussed.

Design Changes

Minimal changes were made to the check boxes. White "halos" were added around each check box. In some instances this created a combined "halo" for two or more check boxes. Combined halos can result in a "continuous halo" when all response options share a single halo or a "broken halo" when, due to a response category covering more than one line, multiple sets of halos are defined. Figure 2 displays examples of the control treatment (No halo) and two forms of the experimental treatment (Continuous halo and Broken halo).

Figure 2. Halo examples

KFP2 o akN h How many bedrooms are in this house, apartment, or mobile home; that is, how many bedrooms would you list if this house, apartment, or mobile home were

on the market for sale or rent?
🗌 No bedroom
🗌 1 bedroom
2 bedrooms
3 bedrooms
🔄 4 bedrooms
5 or more bedrooms

ICADE2 - Continuous naio	
How many bedrooms are in this house, apartment, or mobile home; that is, ho many bedrooms would you list if this house, apartment, or mobile home wer on the market for sale or rent?	N e
No bedroom	
1 bedroom	
2 bedrooms	
3 bedrooms	
4 bedrooms	
5 or more bedrooms	

iCADE2 - Broken halo

Is this person a CITIZEN of the United States?
☐ Yes, born in the United States → SKIP to 10a
Yes, born in Puerto Rico, Guam, the U.S. Virgin
Islands, or Northern Marianas
Yes, born abroad of American parent or parents
Yes, U.S. citizen by naturalization
No, not a citizen of the United States

Methodology

While the initial test provided a preferred experimental design to study these effects, the problems that were found in the grid were considerable and could have influenced respondent behavior completing the rest of the form. For this reason, all comparisons of check box responses involve the second redesigned iCADE questionnaire (iCADE2) and the 2006 KFP questionnaire (KFP2). We compared January through April 2007 mail returns that used the iCADE2 questionnaire with January through April 2006 mail returns that used the KFP2 questionnaire. As was true for the first experiment, both mailings followed identical schedules and strategies and all mail-returned

questionnaires were captured using the same data capture methods. The mail response rates for these two time periods, while significantly different, were nominally pretty close to one another at 57.7% (KFP2) and 56.4% (iCADE2).

Unedited data from mail returned questionnaires were used to produce item nonresponse rates. The item nonresponse rates for this analysis are defined as the ratio of the number of valid responses to the number of questions requiring a response. This means that unique skip patterns were taken into account for each question. For example, the fertility question is asked only of females between 15 and 50 years old, therefore the number of required responses would include only females with a reported age of 15 through 50. Because we chose to use unedited data for this analysis, we had to decide what to do if a questionnaire did not include the critical information needed to define a universe. Because our focus was on comparisons across treatments, we chose to include in these rates only the instances that we were certain required a response. As a consequence, this may depress the true missing data rate. All item nonresponse rates are weighted to reflect the ACS sample design. Statistical testing was conducted using a 90 percent confidence level.

Results

Tables 4 and 5 summarize the comparisons of item nonresponse rates for each of the check box "only" questions. The minimal design changes were not expected to have an effect on item nonresponse. While several statistically significant differences were found in the form of both increases and decreases in item nonresponse, most are quite small. No evidence was found of consistent changes in item nonresponse due to the addition of check box halos. This was true for questions with "continuous halos" and with "broken halos."

We are interested in determining if the "broken halo" format suggested to some respondents that they needed to provide more than one response – one for each group of response categories. Additional data are needed to assess if there is any evidence that the creation of these "broken halos" resulted in more multiple entries so it is outside the scope of this analysis.

One interesting finding is the higher nonresponse rates for the business and acre items in the iCADE2 version (Table 4). Both rates are 1 percentage point higher. The skip instruction located above the acres item may explain the difference. The position of the skip instruction and the bottom border are different between the questionnaires (See instruction A on the KFP2 and iCADE2 facsmiles in attachment 1). In the iCADE version the instruction is closer to the acres item, while it is further from the acres item in the KFP version. The bottom border is much lighter in the iCADE version than in the KFP version. For these reasons, the instruction is more connected to the questionnaire items in the iCADE version suggest that while respondents reading the instruction. The higher rates in the iCADE version suggest that while respondents may be reading the instruction, they are only focusing on the part, "*SKIP* to question 7." This is possible due to the larger and italicized font used for the word "skip". The agriculture sales item that is sandwiched in between the acres and business items does not possess this large difference in nonresponse rates, because the universe for this question is only those households who report owning more than one acre.

Question			Difference	Statistical
	KFP2	iCADE2	(iCADE2-KFP2)	Significance*
	(%)	(%)	(%)	
Type of Building	2.0	1.9	-0.1	Yes
Year built	6.1	6.0	-0.1	
Acres	4.3	5.3	1.0	Yes
Agricultural sales	2.8	2.7	-0.2	Yes
Business	4.0	5.0	1.0	Yes
Rooms	2.7	3.2	0.5	Yes
Bedrooms	1.4	1.4	0.0	
Plumbing	1.5	1.4	-0.1	Yes
Kitchen	1.5	1.4	-0.0	
Telephone	1.5	1.5	0.0	
Vehicles	1.6	1.6	-0.0	
Fuel	1.6	1.6	-0.0	
Tenure	4.2	4.3	0.1	Yes
Rent & meals	2.1	2.0	-0.2	Yes
Mortgage	4.8	4.7	-0.0	
Mortgage & taxes	1.8	2.1	0.3	Yes
Mortgage & insurance	2.0	2.0	0.0	
Second mortgage	3.9	4.1	0.1	Yes

Table 4. Item Nonresponse Rates for Housing Questions Requiring Only a Check Box Response

*Statistical significance tested at the 90 percent confidence level

Table 5. Item Nonresponse Rates for Population Questions Requiring Only a Check Box Response

Question			Difference	Statistical
	KFP2	iCADE2	(iCADE2-KFP2)	Significance*
	(%)	(%)	(%)	C
Citizenship	4.0	4.2	0.2	Yes
School enrollment	4.4	4.3	-0.0	
Grade	1.6	1.7	0.2	Yes
Educational attainment	4.0	4.0	0.0	
Other language	3.3	3.5	0.1	Yes
English proficiency	4.4	5.0	0.6	Yes
Migration (city/town)	2.2	2.1	-0.1	
Disability (vision/hearing)	6.3	6.5	0.2	Yes
Disability (physical limitation)	7.5	7.5	0.1	
Disability (learning)	6.0	6.2	0.2	Yes
Disability (dressing/bathing)	6.6	6.7	0.1	Yes
Disability (going outside)	6.7	6.6	-0.1	Yes
Disability (working)	9.2	8.9	-0.3	Yes
Fertility	4.1	4.3	0.2	Yes
Grandparents as caregivers	6.0	6.2	0.2	Yes
(living with)				
Grandparents as caregivers	4.3	3.9	-0.4	Yes
(responsible for)				
Grandparents as caregivers	2.5	2.2	-0.3	
(how long)				
Military service (ever served)	6.0	6.0	0.0	
Military service (when)	1.5	1.4	-0.0	
Military service (years)	1.3	1.4	0.1	
Work last week	6.0	6.1	0.1	Yes
Place of work (city/town)	3.4	3.5	0.1	Yes
Journey to work	1.0	1.1	0.0	
Time left home (am/pm)	7.9	8.0	0.1	

Layoff	7.9	7.0	-0.8	Yes
Temporarily absent	8.4	8.4	0.0	
Recalled	8.8	8.7	-0.1	
Looking for work	2.7	2.6	-0.1	Yes
Availability to work	2.4	2.9	0.5	
Last worked	10.9	9.6	-1.3	Yes
Industry	9.7	10.1	0.4	Yes

*Statistical significance tested at the 90 percent confidence level

Test of Redesigned Write-in Boxes

The ACS relies on write-in responses to collect detailed information such as language spoken, monthly rent, place of birth, age, and total income. This section details the results of changes made to the ACS questions that required a write-in response or required either a write-in response or a check box response indicating that a write-in response wasn't appropriate. For the purpose of this analysis we organized these write-ins by type of write-in requested – alphabetic and alphanumeric write-ins such as ancestry and place of work (address); currency write-ins such as cost of water; time write-ins such as time left home for work; and numeric write-ins such as number of weeks worked.

Several types of changes were made to the different types of write-in boxes. As was done for the check box comparisons, all comparisons of write-in box responses involve the second redesigned iCADE questionnaire (iCADE2) and the 2006 KFP questionnaire (KFP2). The same definitions, methods, and comparisons that were used for the check box analyses were used for this analysis of write-in boxes.

Alphabetic and Alphanumeric Write-in Boxes

A total of 13 questions included an alphabetic or alphanumeric write-in box similar to the example shown in Figure 3. For all of these questions the write-in was the sole response option.

Design Changes

Minor changes were made to alphabetic and alphanumeric write-in boxes. These boxes are used to record names, race, ancestry, and Hispanic origin groups, state names, occupations, languages spoken, and more. Figure 3 shows that black lines were added to the bottom and right sides of these boxes. The minor change that more clearly defined the corner of these boxes was not expected to influence respondent navigation or behavior.

Figure 3. Alphabetic (or character) write-in example

KFP2 - No black lines	iCADE2 - With black lines
What is this language?	What is this language?
For example: Korean, Italian, Spanish, Vietnamese	For example: Korean, Italian, Spanish, Vietnamese

Results

Table 6 summarizes the item nonresponse rates for each of these questions for the KFP and iCADE treatments. While significant differences are observed for all questions, the direction of those differences is not consistent and many of the differences are very small. A percentage point or more reduction in item nonresponse was found for the name of the industry in the industry question and for the name of the county and the state in the migration question. It's possible that these differences are due more to the one-year time period than the design change.

Question			Difference	Statistical
	KFP2	iCADE2	(iCADE2-KFP2)	Significance*
	(%)	(%)	(%)	-
Ancestry	12.5	12.3	-0.2	Yes
Language spoken	10.4	11.1	0.7	Yes
Migration (name of city)	2.6	2.8	0.2	Yes
Migration (name of county)	10.0	8.3	-1.7	Yes
Migration (name of state)	4.2	3.3	-1.0	Yes
Place of work (address)	6.8	7.4	0.6	Yes
Place of work (name of city)	3.4	3.7	0.3	Yes
Place of work (name of county)	8.1	8.7	0.6	Yes
Place of work (name of state)	5.0	5.2	0.3	Yes
Industry (name)	10.8	8.8	-2.0	Yes
Industry (kind of business)	7.6	6.7	-0.9	Yes
Occupation (kind of work)	6.3	5.9	-0.4	Yes
Occupation (activities)	9.7	9.1	-0.6	Yes

Table 6. Item Nonresponse Rates for Questions Requiring Only an Alphabetic or an Alphanumeric Write-in

*Statistical significance tested at the 90 percent confidence level

Currency Write-in Boxes

The next 12 ACS questions involve responses in dollar amounts. For some questions the only response option was a write-in of an amount. For other questions the respondent had the option to check a box if no estimate was needed (for example, if the cost of electricity was included in the rent.) Item nonresponse rates for this last type of question indicate when neither a write-in entry nor a check box was marked.

Design Changes

The changes that were made to the currency write-in boxes for questions such as income, annual real estate taxes, and monthly rent are shown in Figure 4. Vertical lines and shading were added around the preprinted "\$" and ".00". Borders were added around the entire currency box. Tick marks and commas were also added.

Figure 4. Currency write-in example

KFP2 - No tick marks, commas or borders

What are the annual real estate taxes on THIS property?

Annual amount – Dollars

.00

\$

iCADE2 - With tick marks, commas, and borders

What are the annual real estate taxes on THIS property?

Annual amount - Dollars



Results

As shown in Table 7, five questions were found to have statistically significant differences. However, the differences reflect both increases and decreases and are fairly modest. Only "Cost of oil" shows a change in nonresponse of more than 1 percentage point. It is possible that this observation is more a function of the comparison of 2006 with 2007 – respondents may have been acutely more aware of the cost of oil in 2007 due to rising fuel costs and therefore more able to provide an answer.

Table 7. Item Nonre	sponse Rat	tes for Selecte	ed Questions Requiri	ng a Currency Write-in
Question			Difference	Statistical
	KFP2	iCADE2	(iCADE2-KFP2)	Significance*
	(%)	(%)	(%)	
Cost of electricity	4.1	4.1	0.1	
Cost of gas	10.0	10.1	0.1	
Cost of water	6.3	6.3	-0.0	
Cost of oil	15.0	13.8	-1.2	Yes
Condominium	5.1	4.6	-0.5	Yes
Rent	2.5	2.5	0.1	
Real estate taxes	9.5	9.4	-0.1	Yes
Insurance	12.7	12.8	0.1	
Mobile home tax	30.6	30.3	-0.3	
Mortgage	2.9	3.1	0.3	Yes
Second mortgage	3.7	3.7	0.0	
Total income	16.8	17.4	0.6	Yes

*Statistical significance tested at the 90 percent confidence level

Time Write-in Boxes

A single question on the ACS requests a response of a time of day entry. Both an hour and a minute response are requested as write-ins.

Design Changes

As shown in Figure 5, the write-in box that requests an entry of time replaced lines with tick marks and shaded in the area between the hours and minutes.

Figure 5. Time write-in example



iCADE2 - With tick marks and shaded area

What time did this person usually leave home to go to work LAST WEEK?



Results

Table 8 shows the item nonresponse rates associated with the two treatments for the write-in boxes. Item nonresponse rates were calculated three ways – by part (nonresponse to hours and nonresponse to minutes), overall (nonresponse to either hours or minutes), and at the item level (nonresponse to both hours and minutes). The results for the check box entries for a.m. and p.m.

are shown in Table 5. No meaningful differences were detected for the check boxes or the writeins. While statistically significant, the differences reported below are quite small.

The Gestalt Law of Psychology suggests that respondents would see the two parts of the KFP2 version as one response (since they are grouped together) while they would see the iCADE2 version as two separate responses. One could argue that this would make it more likely that respondents using the KFP2 version either responded to both or to neither. There isn't much evidence of this.

Table 8. Item Nonrespon	nse Rates f	or Questions	Requiring a Time	Write-in
Question			Difference	Statistical
	KFP2	iCADE2	(iCADE2-KFP2)	Significance*
	(%)	(%)	(%)	
Time left home – either	9.0	8.8	-0.2	
hours or minutes				
missing				
Time left home – both	7.7	7.6	-0.1	
hours and minutes				
missing				
Time left home – hour	7.9	7.7	-0.2	Yes
Time left home- minute	8.9	8.7	-0.3	Yes

*Statistical significance tested at the 90 percent confidence level

Numeric Write-in Boxes

The ACS includes 10 questions with numeric write-in boxes for entries of ages, ZIP Codes, numbers of hours worked, and dates. The results for the age and date-of-birth questions were discussed earlier as part of the grid analysis.

Design Changes

Black borders were added and tick marks replaced vertical lines in the numeric write-in boxes for ACS questions that involved dates and ZIP Code. Figure 6a is one such example. Numeric writeins requesting a number, such as the number of commuting minutes and the number of hours worked, were also changed to include black borders and tick marks. However, unlike the other numeric write-ins, the write-in boxes for these questions originally lacked vertical lines—they were empty boxes. Figure 6b shows an example.

Figure 6a. Numeric write-in example - with vertical lines

KFP2 - No tick marks or black border

iCADE2 - With tick marks and black border

f.	Z	IP	C	ode	•	



Figure 6b. Numeric write-in example – without vertical lines

KFP2 - Blank box, no tick marks or black border

During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service. Weeks

iCADE2 - With tick marks and black border

During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service. Weeks

Results

The item nonresponse rates are summarized in Table 9. Three questions had statistically significant differences of greater than 1 percentage point and all were reductions. Note that for the first four questions the KFP write-in box included vertical lines. The change to tick marks does not appear to have had a major effect, except for the migration zip code item where nonreponse improved by 2 percentage points (the migration items will be discussed later in the report). For the last four questions, the KFP write-in box lacked vertical lines. The change to tick marks was a more dramatic change. The results suggest that adding tick marks may have improved respondent completion of these items. It's possible that without the vertical lines or tick marks that respondents were less certain if a number was being requested.

Table 9. Item Nonresponse Rat	tes for Q	uestions Re	equiring a Numeric	Write-in
Question			Difference	Statistical
	KFP2	iCADE2	(iCADE2-KFP2)	Significance*
	(%)	(%)	(%)	
KFP2 included vertical lines				
Date moved in	6.0	5.6	-0.4	Yes
Year of Entry	3.2	3.8	0.6	Yes
ZIP Code – Migration	11.2	9.2	-2.0	Yes
ZIP Code – Place of work	15.5	15.4	-0.0	
KFP2 did not include vertical lines				
Weeks worked	5.8	4.7	-1.6	Yes
Hours worked	5.1	3.6	-1.5	Yes
Journey to work – number of people	0.9	0.8	-0.1	Yes
Journey to work – minutes	6.8	6.8	-0.0	

*Statistical significance tested at the 90 percent confidence level

Test of Questions with Redesigned Check Boxes and Write-in Boxes

Several questions on the ACS include both check box and write-in responses. Depending on how the respondent answers the check box, they may also be asked to complete a write-in response. For example, if a respondent checks the box, "Yes, other Spanish/Hispanic/Latino," for the Hispanic origin question, they are asked to write-in the specific group. The ACS series of income questions ask about a specific source of income with yes/no check boxes. "Yes" responses are directed (by an arrow) to a write-in box to enter an amount. Nearly all of the questions in this section of the paper involved a currency write-in.

Design Changes

Many of the design changes to these write-in boxes were described earlier as the changes made for alphabetic and alphanumeric write-ins and currency write-ins. The check box changes involving halos also applied to these questions. See Figures 7a and 7b for examples.

Figure 7a. Checkbox and Alphabetic Write-in example



Figure 7b. Checkbox and Currency Write-in example

KFP2 - No halos, tick marks, commas, or black borders

Wages, salary, commissions, bonuses, or tips from all jobs. Report amount before deductions for taxes, bonds, dues, or other items.

Yes → \$.00
 No TOTAL AMOUNT for past 12 MONTHS

iCADE2 - With halos, tick marks, commas, and black borders



Methodology

For questions like this, there are two alternative ways to calculate item nonresponse. If you consider both the check box response and the write-in response as a combined item, you can calculate a single nonresponse rate for the entire question. This method does not take into account the navigational design of the question, so respondents who did not complete the check box portion of the questions, but supplied a write-in answer would be considered a response, and therefore would not be included in the nonresponse rate. This method is best for determining how nonresponse would affect the overall quality of the data.

Another way to calculate a nonresponse rate is to calculate separate rates for each part of the question. So, using this method a nonresponse rate is calculated for the check box question, with the universe being everyone asked the question. A second nonresponse rate is calculated for the write-in response, with the universe being only those who checked the box associated with the write-in. This method is better for observing how respondents complete the form, including how they navigate through the questions and skip patterns.

Results

The results using the first method are summarized in Table 10. The differences between the two treatments for all combined item nonresponse rates are very small, except for the rate for the place of birth item. The nonresponse rate for the place of birth item was 2.6 percentage points higher in the iCADE treatment. This suggests a decrease in the quality of data for that item when using the iCADE questionnaire.

Question			Difference	Statistical
	KFP2	iCADE2	(iCADE2-KFP2)	Significance*
	(%)	(%)	(%)	-
Alphabetic write-ins				
Place of birth	10.9	13.5	2.6	Yes
Migration (country)	4.9	4.8	-0.1	Yes
Currency write-ins				
Food stamps	2.6	2.4	-0.3	Yes
Condominium	3.7	3.6	-0.2	Yes
Housing value	7.6	7.8	0.2	Yes
Wages	15.1	15.3	0.2	Yes
Self employment	20.3	20.2	-0.1	
income				
Interest income	20.2	20.5	0.3	Yes
Social Security	18.0	18.6	0.6	Yes
Supplemental Security	19.8	20.0	0.3	Yes
income				
Public assistance	19.0	19.2	0.3	Yes
Retirement	18.2	18.5	0.3	Yes
Other income	18.9	19.0	0.2	Yes

Table 10. Item Nonresponse Rates for Questions Including a Check Box Response and a Write-in Response (Overall Item Nonresponse Rates)

*Statistical significance tested at the 90 percent confidence level

Table 11 shows the nonresponse rates for the questions using the second method, including separate rates for the check box and write-in responses. The first three questions involved an alphabetic or character write-in. The remaining questions involved a currency write-in.

The results from the second method help explain the large difference for the "place of birth (state)" item. They also provide additional insight regarding the navigational pattern for some of the other items. For the "place of birth" item, the nonresponse rate for the check box portion of the question was 5.3 percentage points lower in the iCADE version compared to the KFP version. For this item it seems that the "halo" surrounding the check box may have helped the check box stand out more, as it appears more delimitated in the iCADE version. While the nonresponse rate was reduced for the check box portion, the rate for the first write-in portion was 2.5 percentage points higher. This indicates that of those who mark the check box, fewer follow the instruction and write-in their birth state in the iCADE version. A cross tabulation of the check box and write-in responses revealed that respondents completing the KFP version were more likely to skip over the check box and write-in the state where they were born, than respondents completing the iCADE version (13 percent compared to 8 percent).

This pattern, however, was not the same for those born outside the United States. These respondents seemed to complete the question correctly, checking the box and completing the write-in response. In the KFP version, the checkbox for the "In the United States" response is roughly a space closer to the write-in box and the font is slightly different. This smaller space tends to group everything closer together, while the halo surrounding the checkbox on the iCADE

version allows for more space between the response text and the write-in box. The extra space in the iCADE version helps differentiate the checkbox and the write-in.

The difference in the nonresponse rates for two other check box responses stand out in Table 11—the housing value check box and the wages check box. The direction of the change in the nonresponse rates for these two check box items is inconsistent. Both of these items, however, are slightly unique from each other, as well as, from the other check box items shown in the table. The "housing value" item consists of a long list of ranges – the list is the longest check box response list on the questionnaire. One may be able to argue that the long "continuous halo" makes the list stand out more and seem less intimidating to respondents. The "wages" item is unique in that it is the first in the series of income questions, and it is placed in a separate column from the rest in the series. More importantly, the spacing of this question is different between the KFP and iCADE forms. On the iCADE form, there is less space surrounding the question and it is more difficult to distinguish the question from the long list of instructions shown directly above it. A less crowded questionnaire with substantial white space looks easier and generally results in higher cooperation and fewer errors by respondents (Sudman and Bradbury, 1982).

		Check Box	Portion Only		Write-	in Box
			-	(univers	se includes of	nly those with a valid
					checkbox	response)
Question	KFP2	iCADE2	Difference	KFP2	iCADE2	Difference
	(%)	(%)	(iCADE2 – KFP2)	(%)	(%)	(iCADE2 – KFP2)
			(%)			(%)
Alphabetic write-ins						
Place of birth (state)	16.6	11.4	-5.3*	9.3	11.8	2.5*
Place of birth	16.6	11.4	-5.3*	2.9	2.9	-0.0
(country)						
Migration (country)	2.2	2.1	-0.1	54.2	53.1	-1.1
Currency write-ins						
Food stamps	2.8	2.5	-0.3*	8.7	7.9	-0.8*
Condominium	8.9	9.0	0.1	5.1	4.6	-0.5*
Housing values greater	15.1	13.3	-1.8*	65.1	64.3	-0.8*
than \$250,000						
Wages	28.2	29.4	1.2*	1.8	1.9	0.1*
Self employment	22.1	21.9	-0.2*	4.7	4.9	0.2
income						
Interest income	24.3	24.5	0.2*	2.9	3.2	0.3*
Social security	22.0	22.3	0.3*	4.9	6.2	1.3*
Supplemental security	21.2	21.3	0.2	7.9	9.6	1.7*
income						
Public assistance	20.0	20.1	0.1	11.4	12.0	0.6
Retirement	21.2	21.5	0.2*	4.0	4.5	0.5*
Other income	20.3	20.3	-0.0	3.7	4.2	0.5*

Table 11. Item Nonresponse Rates for Questions Including a Check Box Response and a Writein Response (Separate rates for the checkbox and write-in responses)

*Statistically significant at the 90 percent confidence level

Table 11 also includes two questions with write-in boxes having item nonresponse rates that are higher in the iCADE version—the social security and supplemental security income items. For these items it is difficult to propose an explanation for these changes, because these questions are so similar to other questions in the series – questions with very small differences in the item nonresponse rates.

A final observation from Table 11 is the high rate of item nonresponse for two write-in boxes housing value and migration (country). Both of these questions have item nonresponse rates for the write-in entries in excess of 50 percent. For the housing value question, the write-in is a request to provide a specific value if the value is greater than \$250,000. If this detail is critical, adding additional check boxes may be important to consider. However, it is also important to note that the housing value question was changed for the 2008 ACS questionnaire. Results from the 2006 Content Test supported changing the layout of this question to a write-in format (Woodward, Wilson and Chesnut, 2007).

For the migration question, the high level of nonresponse could be a result of the skip instruction that appears before the write-in box. The instruction reads, "Print name of foreign country, or Puerto Rico, Guam, etc. below; then SKIP to F." It may be worth testing moving the skip instruction after the write-in box to see if this reduces item nonresponse. Another interesting finding is that all the migration items requiring a write-in response had lower nonresponse rates in the iCADE version. There are two differences that may help explain this finding. First, the size of the write-in boxes is much larger in the iCADE version. Since there are so many write-in responses required for this question, the larger boxes may have reduced the burden of respondents trying to squeeze in their written response. Also, the skip instruction in part a (directing respondents to instruction F) uses a much darker, and more visible, green circle in the KFP version. Respondents completing the KFP form may be more aware of this instruction and follow the skip regardless of how they respond to part a.

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Facsimile of 2005/2006 ACS Questionnaire - KFP1 and KFP2



LISC OF Res	sidents	(What Is this person's sex?	What is this age and what person's dat Print number	person's at is this te of birth? s in boxes.	How is this perso to Person 1?	n related
READ THESE INSTRUCTIONS REST Accessful out this form is soon as possible after receiving it in the mail.	Person 1 Last Name (Pixase print) First Name	м	□ Male □ Female	Age (In years)	Year of birth	Person 1 (Person 1 is the person here in whose name apartment is owned, rented. If there is no with the name of an staying bere.)	on living or staying this house or being bought, or such person, start y adult living or
moré than 2 months. LIST anyone else staying here who does not have another usual place to stay. DO NOT LIST anyone who is living somewhere else for more than 2 months, such as a <u>collège student</u> living awäy.	Person 2 Last Name (Please print) First Name	м	Malo Female	Age (In years) Month Day	Year of birth	Relationship of P Husband or wife Son or daughter Brother or sister Grandchild In-law Other relative	arson 2 to Person 1. Roomer, boarder Housemate, roommate Unmarried partner Foster child Other nonrelative
f this place is a racation home or a iemporary residence where no one in this rousehold stays for more han 2 months, do not ist any names in the List of Residents. Complete only pages 4, 5, and 6	Person 3 Last Name (Pivase print) First Name	м	O Male O Temale	Age (in years) Month Day	Year of birth	Relationship of A Husband or wife Son or daughter Brother or sister Grandchild In-Law Other relative	arson 3 to Person 1. Roomer, boarder Housemate, roommate Unmaried partner Foster child Other nonrelative
IND RELIANT SURE VHOM TO LIST, CALL -800-354-7271.	Person 4 Lat Name (Please print) First Name	м	Male Female	Age (In years)	Year of birth	Relationship of P Husband or withe Son or daughter Brother or sister Father or mother Grandchild In-law Other relative	ersen 4 to Person I. Roomer, boarder Housemate, roomnate Unmaried pattner Foster child Other nonrelative
If there are more than	Person 5 Last Name (Please print) First Name	мі	Male Female	Age (in years)	Year of birth	Relationship of P Husband or wife Son or daughter Brother or sister Father or mother Grandchild In-law Other relative	arson 5 to Person 1. Roomer, boarder Housemate, roommate Unmarried pattner Foster child Other nonrelative
five people, list them here. We may call you for more information about them.	Person 6 Last Name (Please print)		Person Last Name	7 (Rease print)		Person 8 Last Name (Please	printj
After you've created the List of Residents, answer the questions across the top of the page for the first five	First Name	м	First Name		м	First Name	м

1

- ,

What is this person's marital status?	NOTE: Please answer BOTH Qu Is this person Spanish' HispanicLatino? Mark (X) the "No" box if not Spanish/HispanicLatino.	estions 5 and 6. What is this person's race? Mark person considers himselfiberself to	(X) one or more be	races to indicate what this	
Now married Wildowed Divorcad Separated Never married	No, not Spanish-Hisparic/Latino Veg, Mexican, Mesican Am, Chicano Veg, Puerto Rican Veg, Cuban Veg, Cuban Latino — Print group, 7	White Black or African American American Indian or Atabla American Indian or Atabla Native – Write name or enroted or prindpai tribe. gr	Acian Indian Chinese Filipino Japanese Korean Vietnamese Other Asian - Print race.	Native Hawalian O Guamarian or Chamorro Samoan O Other Padfic Islander – Print race Some other race – Print race bein	a balow. — ow. ₇
Now married Wildowed Divorced Separated Never married	No, not SpanishHisparicLatino Ves, Merican, Mexican Am, Chicano Ves, Toerto Rican Ves, Otban Ves, Otban Latino — Print group, 7	White Black or African American American Indian or Alaska Native - Africane or anolled or principal tribu, gr	Aslan Indian Chinese Hilipino Japańsko Koreań Vistnamese Other Aslan - Phint race.	Native Hawailan Guamarian or Onamorro Samoan Orther Paditic Islander – Print race Some other race – Print race bein	e below. – ow. ₇
Now married Wildowed Divorced Separated Never married	No, not SpanishHisparicLatino Yes, Merican, Mexican Am, Chicano Yes, Cuban Yes, Cuban Yes, Cuban Latino — Print group: 7	White Black of African American Marken Indian of Alaska Native - Philip for Alaska or principal brids, g	Asian Indian Chinese Filipino Japanese Korean Vietnamese Other Asian - Print race.	Native Hawailan Guamarian or Chamorro Samoan Other Paditic Islander – Print race Some other race – Print race bein	e below. – ow. ₇
Now married Widowed Divorced Separated Never married	No, not SpanishHisparicLatino Org., Mexican, Mexican Am., Chicano Yee, Juarto Rican Yee, Cuban Yee, cuban Yee, other Spanish/Hispani? Latino – Anice group.	With Black of African American Anerican Indian or Alaska Native - Amin came of serioled or prindpail tribe. gr	Asian Indian Chinese Filipino Japanese Korean Vietnamese Other Asian – Print race.	Native Hawailan Guamarian or Chamorro Samoan Other Paditic Islander – Print race Some other race – Print race bein	o below. ow. 7
Now married Wildowed Divorced Separated Never married	No, not SpanishHisparicLatino Ver, Mexican, Mexican Am, Chicano Ver, Juarto Rican Ver, Cuban Ver, Cuban Latino — Print group: 7	White Black or African American American Indian or Alaska Native - Amintaneo or serioled er principal tribe. 2	Adian Indian Chinese Filipino Japanese Korean Vietnamese Other Adian - Print race.	Native Hawailan Guamarian or Chamorro Samoan Other Paditic blander – Print race Some other race – Print race bein	e below. ow. ₇ Z
Person 9 Last Name (Please pl	Person 1	O Person Iaze priht) Last Name	11 (Please print)	Person 12 Last Name (Please print)	
First Name	M Brst Name	M First Name		M First Name	м
Rist Name	M Brst Name	M First Name u are finished, turn the pag	ge and contin	M First Name	мı tion. З

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ACS-1(INFO)(2005), Page 4, GREEN Pantone 354 (10%, 20%, and 100%)

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Housing (continued)

Which FUEL is used MOST for heating this house, apartment, or mobile home? d. IN THE PAST 12 MONTHS, what was the Answer questions 18a and b ONLY IF you PAY RBIT for this house, apartment, or mobile home. Otherwise, SKIP to question 19. In the PAST 12 MORTHS, what was the cost of oil, coal, kerosene, wood, etc., for this house, apartment, or mobile home? If you have lived here less than 12 months, estimate the cost. Ges: from underground pipes serving the neighborhood Ges: bottled, tank, or LP Past 12 months' cost - Dollars Electricity a. What is the monthly rent for this house, apartment, or mobile home? Coal or coke OR □ Wood Monthly amount - Dollars Included in rent or condominium fee
 No charge or these fuels not used Solar energy .00 Other fuel 🗌 No fuel used b. Does the monthly rent include any At any time DURING THE PAST 12 MONTHS, did anyone in this household receive Food Stamps? meals? œ □Yes □No a. LAST MONTH, what was the cost of electricity for this house, apartment, or mobile home? Yes → What was the value of the Food Stamps received during the past 12 months Last month's cost - Dollars Answer questions 19–23 CMLY IF you or someone else in this household OWNS or IS BUYING this house, spertment, or mobile home. Otherwise, SKIP to [] on Past 12 months' value - Dollars S .00 OR O No the next page. Included in rent or condominium fee No charge or electricity not used Is this house, apartment, or mobile home part of a condominium? What is the value of this property; that is, how much do you think this house and lot, apartment, or mobile home and lot, would sell for if it were for sale? O O b. LAST MONTH, what was the cost of gas for this house, apartment, or mobile home? ☐ Yes → What is the monthly condominium foel For renters, answer only if you pay the condominum fee in addition to your rent; otherwise, mark the "None" box. Last month's cost - Dollars Less than \$10,000 \$10,000 to \$14,999 S \$15,000 to \$19,999 \$20,000 to \$24,999 OR Monthly amount - Dollars Included in rent or condominium fee \$25,000 to \$29,999 s Included in electricity payment entered above □ \$30,000 to \$34,999 □ \$35,000 to \$39,999 □ \$40,000 to \$49,999 OR No charge or gas not used O None O No \$50,000 to \$59,999 c. IN THE PAST 12 MONTHS, what was the 560,000 to \$69,999 cost of water and sewer for this house, apartment, or mobile home? If you have lived here less than 12 months, estimate the cost. \$70,000 to \$79,999 Ð Is this house, apartment, or mobile \$80,000 to \$89,999 \$90,000 to \$99,999 □ \$90,000 to \$99,999 □ \$100,000 to \$124,999 □ \$125,000 to \$149,999 Owned by you or someone in this household with a mortgage or loan? Past 12 months' cost - Dollars .00 S ↓ \$125,000 to \$149,999
↓ \$150,000 to \$174,999
↓ \$175,000 to \$199,999
↓ \$200,000 to \$249,999
↓ \$250,000 or more - Specify y Owned by you or someone in this household free and clear (without a mortgage or loan)? OR Included in rent or condominium fee Rented for cash rent?
Cocupied without payment of cash
rent?
SNP to O No charge

ACS-1(INFO)(2005), Page 5, Base (Black)

ACS-1(INFO)(2005), Page 5, GREEN Pantone 354 (10%, 20%, and 100%)

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1 Housing (continued) d. Does the regular monthly mortgage payment include payments for fire, hazard, or flood insurance on THIS property? What are the annual real estate taxes on THIS property? Answer questions 25a-c ONLY IF you listed at least one person on page 2. Otherwise, SKIP to page 24 for the mailing instructions. Annual amount - Dollars Yes, insurance included in mortgage payment S No, insurance paid separately or no insurance OR None a. Do you or any member of this household live or stay at this address What is the annual payment for fire, hazard, and flood insurance on THIS property? 0 a. Do you or any member of this household have a second mortgage or a home equity loan on THIS property? year round? ○ Yes → SKP to the questions for Person 1 on the next page Annual amount - Dollars Yes, home equity loan Yes, second mortgage Yes, second mortgage and home equity loan OR None b. How many months a year do members of this household stay at this address? □ No → SKIP to ① a. Do you or any member of this household have a mortgage, deed of trust, contract to purchase, or similar debt on THIS property? Months b. How much is the regular monthly payment on all second or junior mortgages and all home equity loons on THIS property? Yes, mortgage, deed of trust, or similar debt Monthly amount - Dollars c. What is the main reason members of this household are staying at this address? \Box Yes, contract to purchase \Box No \rightarrow SKIP to guestion 23a .00 This is their permanent address OR This is their seasonal or vacation address To be close to work b. How much is the regular monthly mortgage payment on THIS property? include payment only on FIRST mortgage or contract to purchase. No regular payment required To attend school or college Looking for permanent housing
 Other reason(s)- Specify 7 Monthly amount - Dollars Answer question 24 ONLY IF this is e MOBILE HOME. Otherwise, SKIP to []. OR No regular payment required → SKIP to guestion 23a Continue with the questions about PERSON 1 on the next page. O What are the total annual costs for personal property taxes, site rent, registration fees, and license fees on THIS mobile home and its site? Exclude real estate taxes. ø c. Does the regular monthly mortgage payment include payments for real estate taxes on THIS property? Yes, taxes induded in mortgage payment
 No, taxes paid separately or taxes not required Annual costs - Dollars 6

ACS-1(INFO)(2005), Page 6, Base (Black)

ACS-1(INFO)(2005), Page 6, GREEN Pantone 354 (10%, 20%, and 100%)

I.

Person 1		Your answers in the Americ	are important! Every p an Community Survey o	oerso coun	n ts.
Please copy the name of Person 1 from the List of fieldents on page 2, then continue answering questions below. Last Name M	What is the highest deg this person has COMPLE if currently enrolled, mark highest degree received. No schooling complete Numery school to 4th g Sth grade or 6th grads	ree or level of school TED? Mark (X) ONE box. the previous grade or d rade	a. Did this person live in this house apartment i year ago? Person is under 1 year old → 58 questions for Arexon 2 on page Yes, this house → 5KiP to No, outside the United States - for a control or the states -	or UP to the 10. Ptint nar	me of
Where was this person born?	 7th grade or 8th grade 9th grade 10th grade 11th grade 12th grade - NO DIPLU 	MA	below; then SKIP to No, different house in the Unit	ed States	;
country, or Puerto Rico, Guam, etc.	DIPLOMA or the equiv Some college credit, bi	IATE - high school alent (for example: GED) It less than 1 year age, no degree	Name of city, town, or post offi	ce	
is this person a CITIZEN of the United States?	Associate degree (for e	wample AA AS	c. Did this person live inside the lin	nits of th	14
Yes, born in the United States → Skip to Y0a	Bachelor's degree for	example: e4, A8, 85	dty or town?	100 01 01	
Yes, born in Puerto Rico, Guarn, the U.S. Virgin Islands, or Northern Marianas	Mazter's degree (for e) MEd, MSW, MBA)	comple: MA, MS, MEng,	Ves		
Yes, born abroad of American parent or parents	Professional degree (fc LL & JD)	e okampie: MD, DDS, DVM,	Name of county		
Yes, U.S. citizen by naturalization No, not a citizen of the United States	Doctorate degree (for	example: PhD, EdD)			
When did this person come to live in the United States? Print numbers in boxes. Year	What is this passon's an	cestry or ethnic origin?	Name of state ZP	Code	
a. At any time IN THE LAST 3 MONTHS, has this person attended regular school or college? include only nursery or prachool, kindergarten, elementary school and schooling witch hads to a	For example: Italian, Jama Cambodian, Cape Vardean Dominican, French Canadi Lebanese, Polish, Nigerian, Ukrainian, and so on.)	ican, African Am, , Norwegian, an, Haitian, Korean, Mexican, Talwanese,	is 5 years old or over. Otherwise, SKIP to questions for PERSON 2 on page 10.	is person to the	
No has not attended in the last 3	a. Does this person spea	k a language other	long lasting conditions:	slowing	
months \rightarrow SKIP to question 11	than English at home	7	a, Blindness, deafness, or a severe	Yes	No
Yes, public school, public college	U Yes		vision or hearing impairment?		
b. What grade or level was this person attending? Mark 00 ONE box.	U No → SKIP to quest b. What is this language	7	 A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, 	0	0
Nursery school, preschool			reaching, lifting, or carrying?	U	\cup
Nindergarten Grade 1 to grade 4 Grade 5 to grade 8	For example: Korean, K. c. How well does this pe	alian, Spanish, Vietnamese 🚺 rson speak English?	Because of a physical, mental, or en condition lasting 6 months or more person have any difficulty in doing following activities:	notiona , does ti , any of t	l his the
Grade 9 to grade 12 College undergraduate years (freshman to	U Very well		a. Learning, remembering, or concentrating?	Yes	No
senicr)	Not well		b. Dressing, bathing, or getting around	4	2
Graduate or professional school	U Not at al		Inside the home?		

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Person 1 (continued)

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9	Has this person been looking for work during the last 4 weeks?	φ	For whom did this person work? If now on active duty in the	b. Self-employment income from own nonfarm businesses or farm businesses, including propriatorships and partnerships. Secont NET.
	\square Yes \square No \rightarrow SK IP to question 32		Armed Forces, mark (X) this box $\rightarrow \bigcup$ and print the branch of the Armed Forces.	Income after business expenses.
D	LAST WEEK, could this person have started a job If offered one, or returned to work if recalled?		Name of company, business, or other employer	No TOTAL AMOUNT for past 12 MONTHS
	Yes, could have gone to work Kook and the second s	φ	What kind of business or industry was this? Describe the activity at the location where employed. (For example: hospital, newspaper publishing, mail	c. Interest, dividends, net rental income, royalty income, or income from estates and trusts. Report even small amounts credited to an account.
2	When did this person last work, even for a few days?		order house, auto engine mánúfacturing, bánk)	Yes → S .00 Loss No TOTAL AMOUNT for past
	Within the past 12 months	1		12 MONTHS
	\Box 1 to 5 years ago \rightarrow SKIP to question 35	Ψ	is this mainly - Mark (X) one box	d. Social Security or Railroad Retirement.
	Over 5 years ago or never worked → SKIP to question 41		U manufacturing?	
-			C wholesale (rade?	
9	During the PAST 12 MONTHS, how many WEEKS did this person work? Count paid vacation, paid sick leave, and military service.		cher (agriculture, construction, service, government, etc.)?	12 MONTHS
	Weeks	1		e. Supplemental Security Income (SSI).
		Y	What kind of work was this person doinig? (For example: registered nurse, personnel manager, supervisor of order department, secretary, accountant)	□ Yes → \$.00 □ No TOTAL AMOUNT for past
2	During the PAST 12 MONTHS, in the WEEKS WORKED, how many hours did this person usually work each WEEK?			12 MONTHS f. Any public assistance or welfare payments
	Usual hours worked each WEEK	9	What were this person's most important activities or dutles? (For example, patient care, directing hings policies, rupervising order clerks, typing and filling, reconciling financial records)	rrom the state or local weilfare office. ☐ Yes → S .00 ☐ No TOTAL AMOUNT for pest
3	Answer questions 35–40 ONLY iF this person worked in the past 5 years. Otherwise, SKIP to question 41.			g. Retirement, survivor, or disability pensions. Do NOT include Social Security.
-		Ψ	INCOMENCINE PAST 12 MONTHS.	$\Box Y = \rightarrow S$.00
	35-40 CURRENT OR MOST RECENT JOB ACTIVITY. Describe clearly this person's chief job activity or business (art weak of this person had more than one	Ł	Mark (0) the "Yes" box for each type of income this person received, and give your best estimate of the TOTAL AMOUNT during the PAST 12 MONTHS.	No TOTAL AMOUNT for past 12 MONTHS
	job, describe the one at which this person worked the most hours. If this person had no job or business last	S	today's date one year ago up through today.)	h. Any other sources of income received regularly such as Veterans' (VA) payments, unemploy-
	Was this person -	S~	NOT received.	ment compensation, child support or alimony. Do NOT include lump sum payments such as money
-	Mark (X) ONE box		If not income was a loss, mark the "Loss" box to the	from an inheritance or the sale of a home.
	an employee of a PRIVATE FOR PROFIT company or business, or of an individual, for wages, salary, as complexicant		tight of the dellar amount. For income received jointly, report the appropriate	Yes → S .00 No TOTAL AMOUNT for past
	an employee of a PRIVATE NOT FOR PROFIT, tax-exempt, or charitable organization?		share for each person – of, if that's not possible, report the whole amount for only one person and mark the "No" box for the other person.	12 MONTHS What was this person's total income during the
	a local GOVERNMENT employee (city, county, etc.)?		a. Wages, salary, commissions, bonuses, or tips from all jobs. Report amount before deductions	PAST 12 MONTHS? Add entries in questions 41 a to 41h subtract any losses. If net income was a loss, enter the amount and mark (X) the "Loss" box next to the
	a state GOVERNMENT employee?		for taxes, bonds, dues, or other items.	dollar amount.
	U SELF-EMPLOYED In own NOT INCORPORATED business, professional practice, or farm?		U Yes → \$.00 No TOTAL AMOUNT for past	TOTAL AMOUNT for past
	SELF-EMPLOYED In own INCORPORATED business, professional practice, or farm?		12 MONTHS	Continue with the questions for Person 2 on the
	U working WITHOUT PAY in family business or farm?			next page. If only 1 person is listed in the list of Residents, SKIP to page 24 for mailing instructions.

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AC8-1(INFO)(2006), Page 9, GREEN Pantone 354 (10%, 20%, and 100%) -

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THE American C	U.S. DEPARTMENT OF COMMERCE Economics and Statistics Administration U.S. CINISUS BUREAU
People are our most important resource. This Census Bureau survey collects information about education, employment, income, and housing— information your community uses to plan and fund programs. Your response is important, and we keep your answers confidential.	Start Hore This form asks for three types of information:
If you need help or have questions about completing this form, please call 1-800-354-7271. The telephone call is free. Telephone Device for the Deaf (TDD): Call 1-800-552-6330. The telephone call is free. (NECESITA AYUDA? Si usted habla español y necesits ayuda para completar su cuestionario, liame sin cargo alguno al 1-8272-832-6625.	Area Code + Number Date (MontryDay/Year) Date (MontryDay/Year) How many people are living or staying at this address? Number of people
For more information about the American Community Survey, visit our web site at: http://www.census.gov/census/	Please turn to the next page to continue.
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ACS-1(2005)KFI, Page 1, GREEN Pantone 354 (20%, 40%, and 50%)

List of Res	idents	What Is this person's sex?	What is this person's age and what is this person's date of birth? Print numbers in boxes.	How is this person related to Person 1?
READ THESE INSTRUCTIONS FIRST Please fill out this form as soon as possible after seeiving it in the mail.	Person 1 Last Name (Please print) First Name MI	□ Male □ Female	Age (in years) Month Day Year of birth	Person 1 (Person 1 is the person living or staying here in whose name this house or apartmentic sowned, being bought, or rented if there is no such person, start with the name of any addut living or
Iving or staying here for more than 2 months. IST anyone else staying here who does not have another usual place to stay. DO NOT UIST anyone who is living somewhere else for more than 2 months, such as a <u>college student</u> Iving away.	Person 2 Last Name (Please print) First Name MI	☐ Male ☐ Female	Age (in years) Month Day Year of birth	Palarionship of Parson 2 to Parson 1 Palarionship of Parson 2 to Parson 1 Hudshad or wife Son or daughter Housmate, Toommate Brother or mother Grandshid In-law Other nonrelative Other nonrelative
If this place is a vacation home or a temporary residence where no one in this household stays for more than 2 months, do not than 2 months, do not of Residents. Complete enty pages 4, 6, and 6 and return the form.	Person 3 Last Namo (Please print) First Name MI	☐ Male ☐ Femsle	Ago (in years)	Relationship of Person 3 to Person 1. Hudband or wile Roomer, boarder Son or daughter Housamate, Bochar or sistar commasie Father or mother Ummaried partner Grandbild Foster child In-law Other nonrelative Other nonrelative Other nonrelative
IF YOU ARE NOT SURE WHOM TO LIST, CALL 1-800-354-7271.	Person 4 Last Namo (Please print) First Name MI	☐ Male ☐ Female	Ago (in years)	Relationship of Person 4 to Person 1. Husband or wife Som or daugher Bochar or sistar Father or mother Unmarrisd partner Grandshid In-law Other nonrelative
If there are more than	Person 5 Last Name (Please print) First Name MI	☐ Male ☐ Fernale	Ago (in years) Month Day Year of birth	Relationship of Person 6 to Person 1. Husband or wife Roomer, boarder Son or drughter Housamate, Bochor or sitear commate Father or mother Unmarried partner Grandshild Foster child In-law Other nonrelative
trive people, list them here. We may sall you for more information about them. After you've created the List of Residents, answer the questions across the top of the page for the first	Person G Last Name (Please print) First Name MI	Person Last Name First Name	Please print)	Person 8 Last Name (Please print) First Name MI
people on the list	└- └ <u> </u> 			

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13191036 What is this person's markal status? What is this person Spanish/Hispanic/ tatino? Mark (X) the "No" box if person considers himselfihersei? to be. markal status? person's marital statu Now married No, not Spanish'Hispanic/Latino White
 Black or African American Asian Indian Native Hawaian Guamanian or Chamorro American Indian or Alaska Native – Print name of enrolled or principal tribe. 7 Divorced Yes, Puerto Rican Yes, Cuban $\overline{\Box}$ Filipino Samoan Other Pacific Islander – Print race below: Some other race - Print race below. 7 Yes, other Spanish'Hispanic' Latino – Print group. Z Never married Korean Vietnamese Coher Asian Now married No, not Spanish/Hispania/Latino Asian Indian Π White Nativo Hawaiian Black or African American
Arranican Indian or Alaska Widowed Divorced Separated Yes, Mexican, Mexican Arr., Chicano
Yes, Puerto Rican
Yes, Cuban Chinese Filipino Japanase Korean ☐ Guamanian or Chamorro ☐ Guamanian or Chamorro ☐ Samoan ☐ Other Pacific Islander - Print race below. 7 ☐ Some other race - Print race below. 7 American Indian or Alaska Nativo – Print name of ens or principal tribe Z . Yes, other Spanish/Hispanid Latino - Phint group. 7 Never married Vietnamese Other Asian -Print race. No, not Spanish'Hispanis'Latino
 Yes, Maxican, Mexican Am, Chicano
 Yes, Puento Rican
 Yes, Cuban Now married Widowed Divorced Separated White
 Black or African American
 American Indian or Alaska 🗆 Native Hawaiian 🗆 Asian Indian Guamanian or Chamorro Samoan Other Pacific Islander – Print race below: Chinese Filipino Japanase American Indian or Alaska Nativo – Print name of enrolled or principal tribe. Korean Vietnamese Other Asian Print race. Yes, other Spanish'Hispanic' Latino – Print group. 7 Never married Some other race - Print race below. 7 * Now married Widowed Divorced No, not Spanish'Hispanic/Latino White
 Black or African American
 American Indian or Alapka 🗌 Native Hawaiian Asian Indian Chinese Filipino Guamanian or Chamorro American Indian or Alaska Native – Print name of enrolled or principal tribe. 7 Yes, Puerto Rican Yes, Cuban Samoan
Other Pacific Islander – Print race below. Separated Some other race - Print race below. 7 Korean Vietnamese Other Asian -Print race. Yes, other Spanish'Hispanic' Latino – Print group. 7 Never married Now married No, not Spanish/Hispanis/Latino U White Asian Indian Native Hawaiian Widowed Chinese Guamanian or Chamorro Yes, Mexican, Mexican Am, Chicano Black or African American Yes, Puerto Rican American Indian or Alaska Native – Print name of enrolled or principal tribe 7 ☐ Yes, Pueno null ☐ Yes, Cuban ☐ Yes, other Spanish/Hispanic/ Latino - Print group. gr Filipino
 Japanase
 Korean
 Viatnamese
 Other Asian Print race. Samoan
Other Pacific Islander - Print race below.
Some other race - Print race below.
Some other race - Print race below. Separated Person 9 Person 10 Person 12 Person 11 Last Name (Please print) Last Name (Please print) Last Name (Please print) Last Name (Please print) First Name First Name Mi Mi First Name М First Name MI When you are finished, turn the page and continue with the Housing section 3

ACS-1(2005)KFI, Page 3, Base (Black)

ACS-1(2005)KFI, Page 3, GREEN Pantone 354 (10%, 20%, 40%, and 50%)



ACS-1(2005)KFI, Page 4, Base (Black)

ACS-1(2005)KFI, Page 4, GREEN Pantone 354 (10%, 20%, 40%, and 50%)

Housing (continued)	
Which FUEL is used MOST for heating this house, apartment, or mobile home? Gas: from underground pipes serving the neighborhood Gas: bottled, tank, or LP Bettricity Fuel oil, kerosene, etc. Cosi or coke Wood Solar energy Other fuel	d. IN THE PAST 12 MONTHS, what was the cost of oil, coal, kerosene, wood, etc., for this house, apartment, or mobile home? If you have lived here less than 12 months, estimate the cost. Answer questions 18a and b ONLY IF you PAY RENT for this house, apartment, or mobile home. Otherwise, SKIP to question 19. Past 12 months' oost - Dollars a. What is the monthly rent for this house, apartment, or mobile home? OR Included in rent or condominium fee No charge or these fuels not used a.
No fuel used a. LAST MONTH, what was the cost of electricity for this house, apartment, or mobile home?	At any time DURING THE PAST 12 MONTHS, did anyone in this household receive Food Stamps? ☐ Yes → What was the value of the Control of the vacehold
List month's cost - Dollars	C Answer questions 19-22 ONL VIF you or Someone sie in this household OWNS or IS DV/ING this house, apartment, or mobile home. Otherwise, SKIP to E on the next page.
 b. LAST MONTH, what was the cost of gas for this house, apartment, or mobile home? Last month's cost - Dollars 	Is this house, apartment, or mobile home part of a condominium? ↓ Yes → What is the monthly condominium? ↓ Yes → What is the monthly condominium? ↓ Use is the monthly condominium? ↓ Is the monthly condominium?
OR Included in rent or condominium fee	pay the condomin turn the in addition to your nent otherwise, mark the "None" box. \$10,000 to \$14,999 "None" box. \$15,000 to \$19,999 "None" box. \$20,000 to \$23,999 Monthly amount - Doilars \$25,000 to \$23,999
Included in electricity payment entered above No charge or gas not used IN or the PAST 12 MONTHS, what was	OR 1510,000 to \$23,999 OR 1540,000 to \$29,999 None 1550,000 to \$59,999 0 None 1550,000 to \$59,999
the cost of water and sever for this house, apartment, or mobile home? if you have lived here less than 12 months, estimate the cost. Past 12 months' cost – Dollars	Is this house, apartment, or mobile home - \$
OR Included in rent or condominium fee	household with a mortgage or loan? \$\$125,000 to \$\$149,999 loan? \$\$150,000 to \$\$149,999 Downed by you or someone in this household tree and clear (without a mortgage or loan? \$\$175,000 to \$\$199,999
No charge	Rented for cash rent? Security y Secu

ACS-1(2005)KFI, Page 5, Base (Black)

ACS-1(2005)KFI, Page 5, GREEN Pantone 354 (10%, 20%, 40%, and 50%)

Housing (continued)		
What are the annual real estate taxes on FHIS property? Annual amount - Dollars s OR OR None	d. Does the regular monthly mortgage payment include payments for fire, hazard, or flood insurance on THIS property? Yes, insurance included in mortgage payment No, insurance paid separately or no insurance	Answer questions 25a— c ONLY IF you listed at least one perion on page 2. Otherwise, SKIP to page 24 for the mailing instructions.
What is the annual payment for fire, hazard, and flood insurance on THIS property? Annual amount - Dollars annual amount - Dollars or OR OR None a. Do you or any member of this household have a morgage, deed of trust, contract to purchase, or similar debt on THIS property? Yes, mortgage, deed of trust, or similar debt Yes, contract to purchase Not skiP to question 238 b. How match is the regular monthly moregage payment on THIS property?	 a. Do you or any member of this household have a second mortgage or a home equity loan on THIS property?	 a. Do you or any member of this household live or stay at this address year round? Yes → SKIP to the questions for Person 1 on the next page No b. How many months a year do members of this household stay at this address? Months
or contrisci to purchise. Montily amount - Dollars S OR CR Question 23s Does the regular monthly mortgage payment Include payments for real estate taxes on THIS property? Yes, taxes included in mortgage payment No, taxes paid separately or taxes not required	Answer question 24 ONLY IF this is a MOBILE HOME. Otherwise, SKIP to MOBILE HOME. Otherwise, SKIP to The state of the total annual costs for personal property taxes, site rent, registration fees, and license fees on THIS mobile home and its site? Exclude real estate taxes. Annual costs - Dollars	Continue with the questions about PERSON 1 on the next page.

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Person 1	Your answers are important! Every person in the American Community Survey counts.
Please copy the name of Person 1 from the Iss of Residents on page 2, then continue newering questions below. ast Name inst Name MI inst Name MI inst Name MI inst Name MI In the United States - Print name of state. Outlide the United States - Print name of state. Outlide the United States - Print name of foreign country, or Poerto Rico, Guarn, etc. Outlide the United States - Print name of foreign country, or Poerto Rico, Guarn, etc. State person a CITIZEN of the United States? Yes, born in the United States - SkiP to 10a Yes, born and Poerto Rico, Guarn, the U.S. Virgin Islands, or Northern Markanas Yes, Use in Deuton Broc, Guarn, the U.S. Virgin Islands, or Northern Markanas Yes, Use in Deuton Broc, Guarn, the U.S. Virgin Islands, or Northern Markanas When did this person come to Ilve In the Interd States Print numbers in Doxes. Wear At any time IN THE LAST 3 MONTHS, has this reson attended regular school of college? nature only numbery of preschool and of school of a college? nature on the United States of a nign school diploma or a college degree. Months - SkiP b question 11	C
Yes, public school, public college Yes, private school, private college What grade or level was this person	No + SKiP to question 14 Month at is this language? D. What is this language?
attending? Mark (X) ONE box.	such as walking, climbing stairs, reaching, lifting, or carrying?
Kindergarten Grade 1 to grade 4 Grade 5 to grade 9	For example: Korean, Italian, Spanish, Vietnamese c. How well does this person speak English? Very well
College undergraduate years if reshman to	Weil a. Learning, remembering, or Yes No concentrating?
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ACS-1(2005)KFI, Page 9, GREEN Pantone 354 (10%, 20%, 40%, and 50%)



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List of Re	sidents	What is this person's sex?	What is this person's age and what is this person's date of birth? Print numbers in boxes.	How is this person related to Person 1?
READ THESE INSTRUCTIONS FIRST This survey collects information about the people who are living or staying here for more than 2 months.	Person 1 Last Name (Plasse print) First Name MI	[] Male [] Female	Age (in years) Month Day Year of birth	Person 1 (Person 1 is the person living or staying here in whose name this house or apartment is owned, being bought, or rented. If there is no such person, start with the name of any adult living or staying here.)
On the List of Residents - • Include everyone living or staying here for more than 2 months. In the Person 1 space, list one of the people living here who owns or rents this house or opartment. Remember to include yourself on the list if our of the list if	Person 2 Last Name (Please print) First Name Mi	│ □ Male □ Female	Age (in years)	Relationship of Person 2 to Person 1. Husband or wifa Roomer, boardse Son or daughter Houssemate, Brother or sister roommate Grandshild Foster child In.taw Other neutrine Other relative
you and saying note or more than 2 months. • Include anyone staying here who does not have another place to stay, even if they are here for 2 months or less. • Do not include anyone who is fiving correvehere else for more than 2 months, such as a	Person 3 Last Name (Please print) First Name MI	[] Male [] Female	Age (in years) Month Day Year of birth	Relationship of Person 3 to Person 1. Husband or wife Roomet, boarder Son or daughter Houssmate, Houssmate, Brother or sister Father or mother Uhmamied partner Grandshid Fostar child In-law Other nelative
college student living away. If no one is staying here for more than 2 months, do not list any names in the List of Residents. Complete only pages 4.5, and 8 and return the form. If you are not sure whom to list, call	Person 4 Last Name (Please print) First Name MI	_	Age (in years)	Relationship of Person 4 to Person 1. Husband cr wife Roomer, boardar Son or daughter Housamata, Brother or sister roommala Father or mother Uhmamied partner Grandshild Foster child In-law Other relative
1-800-354-7271. If there are more than five people living or staying here, print their names in the spaces for Person 6 through Person	Person 5 Lest Name (Please print) First Name MI	☐ Male ☐ Female	Age (in years) Month Day Year of birth	Relationship of Person 5 to Person 1. Husband or wife Roomer, boarder Son or daughter Housemate. Brother or sister normmate Father or mother Uhmamied partner Grandshild Foster child In-taw Other nelative
12. We may call you for more information a bout them. After you complete the List of Residents, answer the questions asked at the top of pages 2 and 3 for the first five people on the list.	Person 6 Last Name (Please print) First Name MI	Perso Last Nan First Nan	n 7 no (Please print) ne MI	Person 8 Last Name (Please print) First Name MI

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6	What is this person's marital status?	NOTE: Please answer BOTH Questio Is this person Spanish/Hispanic/ Latino? Mark (X) the "No" box if not Spanish/Hispanic/Latino.	ne 5 and 6. What is this person's race? Mark (X) one or more races to indicate what this person considers himself/herself to be.
	Now married Widowed Divorced Separated Never married	Ne, not Spanish/HispanisLatino Yee, Masican, Mexican Am, Chicano Yee, Puato Rican Yee, Cuban Yee, Cuban Yee, othar SpanishHispanis/ Latino – Pant group. 7	White Asian Indian Native Hawaiian Black or African American Asian Indian Chinese Guarnarian or Chamorro American Indian or Madka Fifipino Asian Indian Chinese Guarnarian or Chamorro Japanase Other Pacific Islander – Print race below. Z Visitnamese Other Asian – Print race Chinese Other Asian – Print race
	Now married Widowad Divorced Separated Never married	 No, not Spanish/HispanisLatino Yee, Masican, Mexican Am, Chicano Yee, Puarto Rican Yee, Cuban Yee, other Spanish/Hispanis/ Latino - Print group. 7 	White Asian Indian Native Hawaiian Black or African American American Indian or Aladca Native — Print name of enrolled or principal tribe Cher Pacific Islander — Print race below: _
	Now married Widowad Divorsed Separated Never married	Ne, not Spanish/HispanisLatino Yee, Masican, Mexican Am, Chicano Yee, Fuato Rican Yee, Cuban Yee, othar Spanish/Hispanic/ Latino - Pant group. gr	White Asian Indian Native Hawaiian Black or African American Chinese Guamanian or Chamorro American Indian or Alacka Native - Print name of errolled or principal tribe. gr Guamanian or Chamorro Korean Samoan Visitnamese Other Pacific Islander - Print race below. gr Other Acian - Print race. Some other race - Print race below. gr
	Now married Widowad Divorced Separated Never married	 Ne, not Spanish'HispanisLatino Yee, Maxican, Mexican Am, Chicano Yee, Puarto Rican Yee, Cuban Yee, othar Spanish'Hispanis' Latino - Print group. 7 	White Asian Indian Asian Indian Asian Indian Asian Indian American American Indian or Aladca Asian Indian American Indian or Aladca Asian Indian American Indian or Aladca American Indian or Aladca American Indian or Aladca Asian Indian Asian Asian Indian Asian Indian Asian Indian Asian Indian Asian Indian Asian Indian Asian Asian
	Now married Widowad Diversed Separated Never married	 Ne, not Spanish'HispanisLatino Yee, Masican, Mexican Am, Chicano Yee, Puarto Rican Yee, Cuban Yee, othar SpanishHispanis' Latino - Fint group. 7 	White Asian Indian Native Havaiian Black or African American Chinesa Guamanian or Chamorro American Indian or Madea Filipino Samoan Native - Print name of enrolled or principal tribe. 7 Japanase Other Pacific Islander - Print race below. 7 Visitnamesa Other Asian - Print race. Some other race - Print race below. 7
	Person 9 Last Name (Please p	Person 10	Person 11 Person 12 Last Name (Please print) Last Name (Please print)
	First Name	MI First Name	MI First Name MI First Name MI
			When you are finished, turn the page and continue with the Housing section. 3



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lousing (continued)		
Which FUEL is used MOST for heating this house, apartment, or mobile home? Gas: from underground pipes serving the neighborhood Gas: bottled, tank, or LP	d. IN THE PAST 12 MONTHS, what was the cost of oil, coal, kerosene, wood, etc., for this house, apartment, or mobile home? If you have lived here less than 12 months, estimate the cost. Part 12 months? cost = Dollars	B Anawer questions 18a and b ONLY IF you PAY RENT for this house, apartment, or mobile home. Otherwise, SKIP to question 19.
Electricity Fuel cit, kerosene, etc. Coal or coke Wood Solar energy Other fuel No fuel used	OR Included in rent or condominium fee No charge or these fuels not used At any time DURING THE PAST	 a. What is the monthly rent for this house, apartment, or mobile home? Monthly amount -Doilars b. Does the monthly rent include any meals?
a. LAST MONTH, what was the cost of electricity for this house, apartment, or mobile home?	12 MÓNTHS, did anyone in this household receive Food Stamps? ☐ Yes → What was the value of the Food Stamps received	□ Yes □ No
Ast month's cost -Dollars	during the past 12 months? Past 12 months' value - Dollars S OO	C Answer questions 19–23 ONLY IF you or someone else in this household OWNS or IS BUYING this house, spartment, or mobile home. Otherwise, SKIP to E on the next page.
LAST MONTH, what was the cost of gas for this house, apartment, or mobile home?	Is this house, apartment, or mobile home part of a condominium? ☐ Yes → What is the monthly condominium	What is the value of this property; that is, how much do you think this house and lot, apartment, or mobile home and lot, would sell for if it were for sale?
Ast month's cost -Dollars	fee? For renters, answer only if you pay the condominium fee in addition to your rent; otherwise, mark the "None" box. Monthly amount – Dollars	Less than \$10,000 \$10,000 to \$14,999 \$15,000 to \$19,999 \$20,000 to \$24,999 \$20,000 to \$24,999
Included in electricity payment entered above No charge or gas not used	OR OR None	\$30,000 to \$34,999 \$35,000 to \$39,999 \$40,000 to \$49,999 \$50,000 to \$49,999
IN THE PAST 12 MONTHS, what was the cost of water and sewer for this house, apartment, or mobile home? If you have lived here less than 12 months, estimate the cost.	ls this house, apartment, or mobile	\$80,000 to \$89,999 \$70,000 to \$79,999 \$20,000 to \$79,999 \$20,000 to \$89,999 \$90,000 to \$99,999
Past 12 months' cost - Dollars	 Owned by you or someone in this household with a mortgage or loan? Owned by you or someone in this household free and clear (without a 	
☐ Included in rent or condominium fee ☐ No charge	mortgage or loan)? ☐ Rented for cash rent? ☐ Occupied without payment of cash rent? → SKIP ro C	\$250,000 to \$249,999



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	Answer question 17 ONLY IF this person is 15 years old or over. Otherwise, SKIP to the questions for PERSON 2 on page 10.	Ð	When did this person serve on active duty in the U.S. Armed Forces? Mark (X) a box for EACH period in which this person served, even if just for part of the period.	3	How did this person usually get to work LAS WEEK? If this person usually used more than one method of transportation during the trip, mark (X) the box of the one used for most of the distance.
•	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?		September 2001 or later August 1990 to August 2001 (including Persian Culf War) September 1990 to July 1990 May 1975 to August 1990 Vietnam era (August 1990 to April 1975) March 1981 to July 1984		Car, truck, or van Bus or trolley bus Streetkar or trolley an Subway or elevated Paircead Ferryboat
	Answer question 18 ONLY IF this person is female and 15-60 years old. Otherwise, SKIP to question 19a.		February 1965 to February 1961 Korean War (July 1950 to January 1965) January 1947 to June 1950 World War II (December 1941 to December 1948)	•	☐ Taxicab Answer question 26 ONLY IF you marked "Car, truck, or van" in question 25. Otherwise, SKIP to question 27.
,	Has this person given birth to any children in the past 12 months?		November 1941 or earlier		
	□ Yes C	2	In total, how many years of active-duty military service has this person had?	20	How many people, including this person, usually rode to work in the car, truck, or van LAST WEEK?
	a. Does this person have any of his/her own grandchildren under the age of 18 living in this house or apartment?	5	Less than 2 years 2 years or more LAST WEEK, did this namen do ANV year's for		Person(s)
	☐ Yes ☐ No → SKP to question 20		either pay or profit? Mark (X) the 'Yes' box even if the person worked only 1 hour, or helped without pay in a famly business or farm for 15 hours or	Þ	What time did this person usually leave hom to go to work LAST WEEK?
	b. Is this grandparent currently responsible for most of the basic needs of any grandchild(ren) under the age of 18 who live(a) in this house or apartment?		none, or was on active outy in the Armed Forces. ☐ Yes ☐ No → SKIP to question 29		Hour Minute
	Yes Ino → SKP to question 20	4	At what location did this person work LAST WEEK? If this person worked at more than one location, print where he or she worked most last	4	How many minutes did it usually take this person to get from home to work LAST WEE
	c. How long has this grandparent been responsible for the[se] grandchild(ren)? If the grandparent is financially responsible for more than one grandchild, answer the guestion for the grandchild for whom the grandparent has been		week		Minutes
	responsible for the long est period of time.		If the exact address is not known, give a description of the location such as the building name or the nearest street or intersection.	J	An swer questions 29–32 ONLYIF this penson and NOT work last week. Otherwise, SKIP to question 33.
	☐ 6 to 11 months ☐ 1 or 2 years		b. Name of city, town, or post office	Ð	a. LAST WEEK, was this person on layoff fro
	☐ 3 or 4 years ☐ 5 or more years		c. Is the work location inside the limits of that eity or town?	T	a job? ☐ Yes → SKIP to question 29c
	Has this person ever served on active duty in the U.S. Armed Forces, military Reserves, or National Guard Active duty does not fudue training for the Reserves or National Guard, but DOES include softwation, for example, for the Persian Gulf War.		Yes You No, outside the sity/town limits d. Name of county		 No LAST WEEK, was this person TEMPORARI absent from a job or business? Yes, on vacation, temporary ilness, labor
	Yes, now on active duty Yes, on active duty during				dispute, etc. \rightarrow SKIP to question 32 No \rightarrow SKIP to question 30
	the last 12 months, but not now Yes, on active duty in the past, but not during the last 12 months		e. Name of U.S. state or foreign country		c. Has this person been informed that he or a will be recalled to work within the next 6 months OR been given a date to return to
	No, training for Reserves or National Guard only → SKIP to question 23		f. ZIP Code		work? □ Yes → SKIP to guestion 31
	No, never served in the military → SKIP to guestion 23				□ No

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