Counting Same-sex Couples: Official Estimates and Unofficial Guesses

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Abstract:

When editing Census Bureau data since 2000, in same-sex married couple households, the respondent reported as the spouse was changed to the unmarried partner of the householder. Up until 2004, no state granted marriage licenses to same-sex couples in the United States. However, marriages between same-sex couples have been legal in Massachusetts since 2004, in Connecticut since 2008, and briefly in California in 2008, thus creating differences in how respondents report data and how data are shown in Census Bureau publications. We will discuss the history of these editing decisions and present "unofficial" estimates of the numbers of respondents who reported themselves as same-sex married couples in Census 2000 and in the American Community Survey during the transitional periods when states began to legalize same-sex marriages. Finally, we will present some general characteristics of married opposite-sex couple, unmarried opposite-sex couples, and unmarried same-sex couples by their reporting status.

This report is released to inform interested parties of ongoing research and to encourage discussion of work in progress. The views expressed on statistical or methodological issues are those of the authors and not necessarily those of the U.S. Census Bureau.

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Introduction

How the Census Bureau edits and publishes the numbers of same-sex couples has been the basis for numerous reports in the media since the California Supreme Court ruled for the issuance of marriage licenses to same-sex couples in June, 2008. The media reports began with a widely published article appearing in the *San Jose Mercury* on July 12, 2008 entitled "Census Bureau Won't Count Same-sex Marriages." That story was followed by "Census Won't Count Gay Marriages" in the July 17, 2008 *Washington Post* and "Census Won't Recognize Gay Marriages in 2010 Count" in a July 17, 2008 *Associated Press* release.

These articles were written because of the way the Census Bureau edits and publishes data on same-sex couples that originally report themselves as being spouses on the questionnaire forms or collection instruments. In the editing process of Census 2000 data, unlike in the 1990 Census, if a household consisted of a married couple, with both spouses reporting the same sex—and where no item imputations were made for either person for either their relationship or sex—then the respondent who reported being the spouse of the householder was changed to being the unmarried partner of the householder.

In 1990, the *relationship* category would have remained the same (spouse) but the *sex* of the partner would have usually been changed.¹ Because there were no same-sex couples legally married in any state in the United States at the time of Census 2000, it was reasonable to assume these responses were meant either to reflect a social response of living together "like a married couple"--but without a marriage certificate--or marking errors in either the relationship or gender items. Using this rationale and without the ability to separate the aforementioned responses, spouses were assigned to unmarried partners to attempt to preserve the social response.

An additional consideration at this time involved the passage of the 1996 Defense of Marriage Act (DOMA). While the Census Bureau counts everyone regardless of his or her sexual orientation or marital status but as a federal agency, it also follows the guidelines of DOMA. This act specifies the definition of marriage and spouse for purposes of federal law²:

"In determining the meaning of any Act of Congress, or of any ruling, regulation, or interpretation of the various administrative bureaus and agencies of the United States, the word 'marriage' means only a legal union between one man and one woman as husband and wife, and the word 'spouse' refers only to a person of the opposite sex who is a husband or a wife."

It does not include in this definition a marriage between people of the same sex, even if they have been married under the laws of individual states. Inasmuch as the Census Bureau is a federal agency and provides data to other federal agencies for the purposes of enacting their programs which follow the same federal guidelines, the Census Bureau's

¹ This explanation was posted to the Census Bureau website when same-sex couple statistics from Census 2000 were published. See http://www.census.gov/Press-Release/www/2002/sf3compnote.html ² For the specifications of the act, see ">http://thomas.loc.gov/cgi-bin/bdquery/z?d104:HR03396:>

decision to continue these editing and tabulation practices has been recognized to be consistent with federal law even by members of Congress who voted against the passage of this act.³

Until 2004, no state granted marriage licenses to same-sex couples in the United States, hence, there was no difference between state and federal law and the Bureau's procedure was generally not in dispute. However, marriages between same-sex couples have been legal under state laws beginning in May 2004 in Massachusetts and from June to November 2008 in California, thus creating differences in how data are reported by respondents in surveys and how data are shown and tabulated in official Census Bureau reports. In October 2008, the state supreme court in Connecticut also ruled that excluding same-sex marriages was unconstitutional, thus adding a third state which allowed same-sex marriages at some time during calendar year 2008.

However, in the November 2008 election, voters in California voted to amend that state's constitution by banning same-sex marriages, thus overturning a state court ruling in June that previously approved same-sex marriages.⁴ As of the writing of this paper, only Massachusetts and Connecticut have state provisions that allow same-sex marriages to be performed in those states. There is no certainty how this issue will resolve itself among the 50 states or whether any changes will be made to any provisions of the 1996 Defense of Marriage Act.

³ Eric Moskowitz, "Out for the Count," *Boston Globe*, July 27, 2008

<< http://www.boston.com/news/local/articles/2008/07/27/out_for_the_count>>.

⁴ In this same election, voters in Florida and Arkansas also approved constitutional amendments banning same-sex marriage.

This paper will discuss the history of these editing and tabulation decisions beginning with Census 2000. We then will present "unofficial" estimates of respondents who reported themselves as same-sex married couples from Census 2000, from test censuses conducted in 2004, and from the American Community Survey during the transitional periods when states began to legalize same-sex marriages. This will give data users insight into potential problems that the Census Bureau faces in analyzing same-sex couples and the statistical complexities that public data users would encounter in using the data. Finally, we will present some general characteristics of same-sex couples that go beyond current tabulations shown in Census Bureau publications.

Data source

Internal data files for the American Community Survey (ACS) will be primarily used in this study that contain detailed variables that have not been released to the public. The ACS sample size of final interviewed households.⁵ was about 570,000 for 2003 and 2004 and slightly over 1.9 million for 2005 through 2007. The American Community Survey was chosen for several reasons. First, since the proportion of households with same-sex partners is less than 1 percent of all households, other Census Bureau Surveys, such as the Current Population Survey and the Survey of Income and Program Participation, could not yield satisfactory estimates for this population group at either the national or the state level.

⁵ For a description of the national level and state samples in the ACS, go to the ACS Quality Measure page on the Census Bureau website at << <u>http://www.census.gov/acs/www/UseData/sse</u> >>.

Second, the ACS is able to produce annual estimates at the state level, a data requirement necessary to observe trends during periods of changing state laws. Third, the ACS also collects information on a wide variety of social and economic characteristics not collected in the upcoming Census 2010 that will enable us to examine differences in the various population groups.

The internal data files used in this paper will contain the final edited responses after all of the demographic data have been processed. An imputation flag is also available on this data file that will enable us to tally the final number of edited unmarried partner households that were originally reported as being same-sex spouse households.

Currently, public use files do not contain the detailed imputation flag that would identify which unmarried partners reported themselves as spouses. The assignment of the spouse in a same-sex couple to the unmarried partner of the householder is treated as a household consistency edit and not an imputation. As such, these couples are indistinguishable on the public use files from couples that originally reported themselves as unmarried partners whose responses are also recorded as "not imputed."

This general practice—not counting assignments as imputations—is used in both the decennial Census and the ACS for uniformity of presenting estimates of imputed values on public use files and in tabulations across all variables. We will also use internal 100 percent data files from Census 2000 that contain a similar flag indicating the assignment of the relationship status between unmarried partners and spouses. A third data file will

also be used from a special 2004 test census of New York that contained special variables that assigned probability levels of individual's first names related to the likelihood that their name was associated with either being male or female.

Editing and Tabulations Decisions for Census 2000

Three topics are key to understanding the decision to assign reports of same-sex spouses to those of unmarried partners during Census 2000:

- 1. The re-examination of the 1990 decision to change the sex of same-sex spouses.
- 2. The guidelines of the 1996 Defense of Marriage Act.
- 3. A study of Census 2000 dress rehearsal data in 1998 that examined the characteristics of married and unmarried same-sex couples.

The editing specifications used for Census 2000 stated that if a household consisted of a married couple with both spouses reporting the same sex—and where no imputations were made for either person for either their relationship or sex due to non-response—the partner who reported being a "spouse" of the householder was changed to being an "unmarried partner" of the householder. This was a different process than that used in the 1990 Census where the *relationship* category would have remained the same (spouse), but the *sex* of the partner would have usually been changed.

This change in the editing process for Census 2000 was made as studies have noted that individual reports of gender are usually the best reported items on surveys, certainly better than those reporting on the relationship item. Gender in Census 2000 had both the lowest allocation rate (0.9 percent) and lowest index of inconsistency (1.7 percent) of all items on both the short and long forms.⁶ If any item were to change, sex would be the least likely to be in error although the possibility of a marking error could not be discounted as will be discussed in a subsequent section.

This editing decision was partly guided by the 1996 Federal Defense of Marriage Act (H.R. 3396) that included a provision requiring Federal agencies to recognize only persons of the opposite-sex in defining a married couple for Federal program purposes. If the relationship category was to be changed, which category was it to be assigned?

In 1998, a Census dress rehearsal was conducted in California and South Carolina. A report using these data suggested that the characteristics of those same-sex couples that reported themselves as spouses were different from those who reported themselves as unmarried partners. Same-sex married couples were more likely to be living with their own children and were older than unmarried couples, hence did have characteristics more like opposite-sex married couples.⁷ The edit, then, attempted to preserve the apparent intent of the relationship marked by directly assigning the spouse to the unmarried partner category, as the response of married spouse could not be accepted.⁸

The alternative solution would have been to allocate a random relationship category based on the sex and age of the respondents in question. This procedure could have yielded an edited answer such as roommate, unmarried partner or even a sibling if the

⁶ The index of inconsistency is a measure of response variance in questions. The Census 2000 Content Reinterview Survey measured the consistency of responses between questions on Census 2000 and a subsequently administered survey. For a description of this survey and the ensuing analysis, see Paula J. Schneider, *Content and Data Quality in Census 2000*, Census 2000 Testing, Experimentation, and Evaluation Program Topic Report No. 12, TR-12 (US Census Bureau: Washington DC, 2004), Table 1.
⁷ Jason M. Fields and Charles L. Clark, "Unbinding the Ties: Edits Effects of Marital Status on Same-Sex Couples," Population Division Working Paper No. 34 (U.S. Census Bureau, April 1999).
<<u>http://www.census.gov/population/www/documentation/twps0034/twps0034.html</u>>

⁸ At this time no state issued marriage licenses to same-sex couples.

ages were relatively close to each other. (It should be noted that in the overall editing process of short form items, same-sex partners could also be allocated if responses to the relationship item were left blank on the form.)

The results of this editing procedure on the short form (100 percent data) are shown in Table 1. Of the 594,000 same-sex couples reported as the final edited estimate from Census 2000 in officially released reports,⁹ 253,000 (43 percent) were originally reported as spouses. Since, no same-sex couple could have been legally married in the United States in 2000, these responses could have resulted from any of the following scenarios:

- Couples who may have registered as domestic partners or were in recognized civil unions and reported that they were legally married as this was the closest category to choose from.¹⁰
- 2. Couples who identified themselves as "spouses" because they were living together a long time and may have "spousal" like characteristics, like living with their children or co-owning a house. These unions we will term as "socially defined" marriages. This would not be unlike common-law marriages between people of the opposite sex who we currently code in the marital status category as married and in the relationship category as spouse.
- 3. Couples who are legally married to each other but are of the *opposite sex* and made an error in the marking of their sex on the Census form.¹¹

⁹ Tavia Simmons and Martin O'Connell, "Married-Couple and Unmarried-Partner Households: 2000," *Census 2000 Special Reports*, CENSR-5 (February 2003).

¹⁰ In 2000, Vermont and California had such provisions.

¹¹ As will be shown in a subsequent section, the age of same-sex spouses are similar to the householder. The adjacent category on the relationship list is child of the householder. If the relationship item, as

The proportion of unmarried same-sex couples assigned from reports of spouses was not similar across all states. Figure 1 shows that low assignment percentages were noted on the West coast and in New England while relatively high percentages were recorded in the central states. As will be shown later, a similar pattern also is noted in more recent ACS surveys. The only explanation that we can offer at this time is that the Human Rights Campaign, publicized that for Census 2000, same-sex couples should mark the unmarried partner box on the relationship item.

Modeling same-sex estimates using 2004 Census test data

Research has been undertaken both by outside data users.¹² and the Census Bureau to evaluate the reasonableness of the data on same-sex couples from Census 2000 and the American Community Survey..¹³ A key investigative area is the effect of errors in the marking of the gender item on the forms on the overall estimate of the number of same sex partners. Even if the magnitude of this type of error is very small, since it would be drawn from the population of married opposite-sex couples, which is over 50 million, the effect could be important on the overall estimate of same-sex couples and hence, any attempt to describe the characteristics of this population.

<< http://www.census.gov/population/www/documentation/twps07/twps07.html >>.

opposed to the sex item, were in error, large differences between the ages of the householder and the "spouse" would have emerged for same-sex spouses. This did not occur.

¹² Gary J. Gates and Randall Sell, "Measuring Gay and Lesbian Couples," in Sandra L. Hofferth and Lynne M. Casper, Eds. *Handbook of Measurement Issues in Family Research* (Mahwah, NJ: Lawrence Erlbaum Associates, 2007), pp, 235-244.

¹³ See Martin O'Connell and Gretchen Gooding, "Editing Unmarried Couples in Census Bureau Data," (HHES Working Paper, July 2007)

Aside from conducting a prohibitively expensive and time consuming re-interview of every household in the United States to verify both sex and relationship responses, an economically and statistically feasible way to estimate the number of misclassified samesex unmarried partners would be to use a data set containing the first names of the respondents and the probability that a person's name is associated with a specific gender.

The Census Bureau has developed state-specific statistical "name directories," which are files of first names that are associated with an index that identifies the "maleness" of the name. These name directories were developed for each state from the Census 2000 data files. A name index (from 0 to 1000) for each name in the directory was constructed by taking the ratio of the number of times this name was recorded by a male to the total number of times this name was recorded by either a male or female.

For example, an index of 950 indicates that when this name appeared in the Census 2000 for a given state, 950 times out of 1000, that person was a man. An index of 20 would indicate that only 20 times out of 1000 that name was reported by a man or conversely, 980 times out of 1000 that name was identified as being reported by a woman. Indices shown in this report are normalized for each sex so that the lower the index value, the less likely it is that the respondent's name is associated with their reported sex—in other words, the more likely it is that a mistake was made when marking the gender item on the form.

Using this index, a decision could be made as to whether to accept the respondent's reply of their gender on the basis of consistent reports with this index or to reject their gender response and assign them to the opposite sex. Clearly, age, cultural and geographical differences may affect this index, as similarly spelled names may be male or female in different cultural environments. Directories have been prepared at the State level that can partly address these issues.

By setting different "acceptance levels" for this index, one can see the effect of using an alternative piece of information—a person's name—on the population to be estimated..¹⁴ For example, suppose one was very confident that an error was made in marking the gender item as "female" if a person's name less than 1 percent of the time was recorded as "female" in the names directory. One could reassign sex from female to male for all "females" who's name had an index value less than 10 times out of 1000 (1 percent) and who marked "female" in the gender item.

One could relax this rule and increase the level to 50 or 100 times out of 1000, but that would risk making more false assignments. If a name only 100 times out of 1000 was female, would the decision to alter a person's sex from female to male be justified simply because the majority of the time the name is associated with males? Remember, 100 out of every 1000 times the name would actually be female.

Using this type of index, one could examine the sensitivity of this procedure by showing how many same-sex unmarried partner households have partner names that could imply an inconsistency with their gender—that they are likely to be opposite-sex married couples—and hence, model an estimate of the proportion of same-sex partners that may have resulted from marking errors.

¹⁴ Some Census 2000 editing routines did use a person's name to assign a male/female value for the gender item when that question was left blank on the form and no other useful information was available for editing procedures.

Ranges for rates of misreporting of gender for specific types of couples can be suggested from the 2004 Test Census of New York, which actually covered the borough of Queens.¹⁵ Table 2 shows the distribution of these name index levels for this test by the different living arrangements of couples.

First, we notice that this is not a perfect directory—anywhere from 10 up to 30 percent of names could not be identified with a specific sex or there was no name reported at all.

Second, using the first name index to evaluate reports of sex at index levels from less than 10 up to 100 suggests that about 1 to 2 percent of married couples, and opposite-sex unmarried partners were likely to have made a mistake when marking the sex item on the census form that would result in a reassignment of their gender out of these two oppositesex couple categories to a same-sex couple category.

Third, for same-sex unmarried partners who reported that they were unmarried partners and were not assigned to this relationship category, a slightly higher proportion—about 2 percent to 4 percent—had first names indicating that they were of the opposite sex than they reported if one were to assume that those with name index levels of 100 or less indicated a mismarked form.

However, for those assigned same-sex couples that originally reported that they were spouses, considerably higher proportions of people reported name index levels less than 100, strongly suggesting that the gender item was mismarked on the forms. For male couples who were assigned, 10 percent of the householders and 29 percent of their

¹⁵ Martin O'Connell and Gretchen Gooding, "The Use of First Names to Evaluate Reports of Gender and Its Effect on the Distribution of Married and Unmarried Couple Households." Paper presented at the Annual Meetings of the Population Association of America, Los Angeles, CA, March 30-April 1, 2006.

partners had names inconsistent with their sex responses at the most conservative index level less than 10 (meaning 99 percent of the time those names are associated with females). For female couples that were assigned, comparably high proportions but with a reverse pattern was noted at the index level less than10: 28 percent of the householders had inconsistent name/sex reports, as did 8 percent of their partners.

This reverse pattern is easy to explain if one assumes that a significant proportion of assigned same-sex couples are really opposite-sex couples that marked the gender item on their form in error. Since the majority of married couples list the male as the householder, ¹⁶ turning a male-female couple into a male-male couple requires that the errors to be made for the spouse or married partner. Conversely, in creating a female-female couple from male-female couple, one would expect more errors to occur in the reporting of the householder. The pattern evident in Table 2 strongly suggests that marking errors could play an important role in the analysis of same-sex couple data. What is the overall impact of these errors?

Table 3 models the overall magnitude of these potential errors on the estimates of the same-sex couple population at different index levels using these 2004 Census test data and national estimates of couples from the 2004 ACS as a base population. Of the 707,196 (line 1) edited number of same-sex couples in the 2004 ACS, 364,056 (line 2) were originally recorded as spouses. If one re-edited the 2004 Census Test data using the names directory to alter responses of the person's sex, 37 percent (line 3) of same-sex couples who originally reported themselves as married couples had names inconsistent

¹⁶ Data from Census 2000 indicate that 87 percent of married couples listed the male as the householder and the females as the spouse. See Tavia Simmons and Martin O'Connell, "Married-Couple and Unmarried-Partner Households: 2000," *Census 2000 Special Reports*, CENSR-5 (February 2003), Table 4.

with their recorded sex responses at the index level less than 10, meaning that they were highly likely to be of the opposite sex rather than of the same sex. If changes were made for anyone within index value less than 100, up to 50 percent of same-sex married couples would be lost. The magnitude of this potential component is critical to understanding why a simple presentation of the number of couples who report that are married to each other would produce estimates of questionable reliability value.

For those unmarried same-sex couples who did not report themselves as spouses, about 3 percent had names at an index value less than 10, indicating that they were likely to be of the opposite sex. In all, this modeling procedure suggests that 21 to 28 percent of all same-sex couples could really be of the opposite sex (line 9) depending on the index level accepted that would override the reported gender on the form.

To complete the picture, the same editing procedure was undertaken for married opposite-sex couples. Although inconsistent reports of gender and names were noted for only 1 percent to 2 percent of these couples, because of their relatively larger numbers, re-editing the data using names index suggests that up to 1 million opposite-sex couples have names indicating that both partners are of the same sex (line 16). The modeled estimates shown in Table 3 are not meant to provide definitive or revised estimates of the number of same-sex couples shown in any Census Bureau publication but rather demonstrate the inherent problems in using first names to edit data.

National estimates of same-sex couples, 2003-2007

Trends in the married and unmarried component of the same-sex couple population for the years 2003-2007 are shown in Table 4 from the American Community Survey. The proportion of all same-sex couples that originally reported themselves as spouses was about 50 percent between 2003 and 2006, declining to 45 percent in 2007.

It is important to note that all of the spousal responses recorded before 2004 occurred in time periods when there were no legal same-sex marriages in any state or territory of the United States. Therefore, these responses could have only been derived from three sources:

- 1. People who socially considered themselves as living together as spouses
- 2. People who may have entered into a registered civil unions or domestic partnerships and identified themselves as being in a married-like state
- 3. Opposite-sex married couples that had one partner mismark or misreport the gender item in the questionnaires.

However, for the period 2004-2007, a fourth component was added: those representing legal marriages performed in Massachusetts beginning in May, 2004.

In 2007, 45 percent of all same-sex couples (341,000--Table 4) reported they were married although by 2007 there were only 11,000 marriage licenses issued to couples in the United States, all from Massachusetts.¹⁷ Even if one assumed that if several thousand

¹⁷ Numbers transmitted to the authors by Kevin Foster of the Massachusetts Registry of Vital Records and Statistics, December 9, 2008.

couples married in Canada¹⁸ and returned to the United States, over 325,000 married couples still could not be accounted for in the total. Similar to the pattern exhibited from Census 2000, states with relatively high proportions of couples being assigned from original reports of spouses are found in the middle of the United States such as in the Dakotas, Kansas and Nebraska. Percentages below the national average were found in coastal states such as in California, Oregon, and New York (Figure 2).

Estimates of same-sex couples for California and Massachusetts, 2003-2007

Table 5 presents for California and Massachusetts the distribution of same-sex households by their assignment status similar to that shown for the entire country in Table 4. When examining these weighted estimates, it should be remembered that the ACS is a sample and the sample more than trebled in completed interviews between 2004 and 2005. On average, each ACS interviewed household in 2003 and 2004 represented about 190 households. Between 2005 and 2007, the sample increased to about 1.9 million interviewed households, meaning that the average weight declined to about 57 per interviewed households. So estimates of 1,000 households or less in 2003 or 2004 may in reality represent the responses on only 4 or 5 households. The 90 percent confidence interval, for example, for the 7,328 male-male households in Massachusetts in 2003 is $\pm 2,260$ households. In 2007, the 9,963 male-male households had a margin of error of $\pm 1,418$ households. Even using the recently released 3-year average data for

¹⁸ The 2006 Census of Canada recorded approximately 7,500 same-sex married couples living in Canada. No estimate was made of the number married in Canada who may have migrated to the United States. Anne Milan, Mireille Vezina and Carrie Wells, "Family Portrait: Continuity and Change in Canadian Families and Households in 2006," Catalogue 97-553-XIE (Ottawa: Statistics Canada, September 2007).

2005-2007 produces a margin of error of \pm 809 around an estimate of 10,836 male-male households in Massachusetts for this period.

In California, about 40 percent of all same-sex households between 2003 and 2006 each year were estimated to be married same-sex households, with a slight decline in the percentage originally reporting themselves as married to 34 percent in 2007 (Table 5). These proportions were about 10 percentage points below that of the national average for the same period (Table 4).

For Massachusetts, the number of same-sex marriages recorded by the state registry numbered 6,121 in 2004, 2,060 in 2005, 1,442 in 2006, and a provisional count of 1,522 in 2007. Of the total 11,145 marriages through 2007, 4,045 were to male couples and 7,100 were to female couples. ACS data for 2007 indicate there were 23,023 unmarried couples of which 64 percent (14,618) originally reported themselves as being married. In 2003, a smaller proportion of all same-sex couples in Massachusetts reported themselves as "spousal" households (41 percent) in 2003. Between 2004 and 2005 when marriages were first performed in Massachusetts, this proportion increased from 44 percent to 57 percent.

Is the increase in the proportion of ACS married same-sex households in Massachusetts between 2004 and 2005 and the corresponding issuance of same-sex marriage certificates a statistical coincidence or is it indicative of the ability of the ACS to detect these changes in Massachusetts during this transitional period? Does the increase in the proportion reporting that they are spouses also indicate a transition in Massachusetts from couples going from being same-sex unmarried partners to same-sex married couples over the years? It may be possible that the ACS may be able to identify these trends and transitions for this population group at the state level. Further evaluations can be made for California and Connecticut using data from the ACS for periods beyond 2008.

Misreporting of Gender and Its Effect on Estimates of Same-Sex Marriages

The estimates of same-sex marriages and partners depend on the accuracy of reporting of two items: relationship and gender, although it should be noted that gender is generally the best reported item on surveys.¹⁹ The ACS can address this issue and attempt to measure mismarkings of the gender item because the survey was conducted in three formats.

The first format was the traditional mailout/mailback format where the respondent in the household fills out the form without any interviewer present to either answer questions or to verify any responses that may seem inconsistent. Approximately 75 percent of all same-sex households in the ACS between 2003 and 2007 were collected from forms returned by mail (table 6). The second format was by an interviewer over the telephone (CATI) and the third was by a personal visit to the respondent's household using a laptop computer to collect the data (CAPI).

¹⁹ Phyllis Singer and Sharon R. Ennis, "Census 2000 Content Reinterview Survey: Accuracy of Data for Selected Population and Housing Characteristics as Measured by Reinterview," *Census 2000 Evaluation Report, B.5* (US Census Bureau, September, 2003).

Unlike the mail forms, the CATI/CAPI instruments used a verification screen to confirm the sex and relationship answers given by a respondent who reported being the spouse of the householder and also the same sex as the householder. The respondent could confirm both responses, thus retaining the original response of a same-sex married-couple household, or change the gender or relationship responses if either the respondent or the interviewer made an error. Thus the CATI/CAPI instruments, with this verification screen, could be viewed as producing as nearly as possible an "error-proof" set of responses to the relationship and gender items.

If one believed that reports of same-sex spouses were mostly mistakes in the reporting of either item, then the CATI/CAPI results would have virtually no reports of same-sex spouses in the instrument output files. However, Table 6 clearly indicates that the ratio of reported spouses to unmarried partners in CATI/CAPI households is certainly not zero but is quite variable from survey year to survey year, ranging between 0.5 to 0.9 spouses for every reported unmarried partner (Line 7). This ratio is lower than those from the mailout/mailback forms where about as many couples were originally reported being spouse, as unmarried partners (Line 4) this suggests that the reports of same-sex spouses are not all artifacts of mistaken marks on ACS forms by respondents but are true responses.

However, one cannot entirely rule out respondent mistakes on the paper mail forms—it can happen. The ACS data shown in Table 6 can approximate the magnitude of possible mistakes using certain assumptions by adjusting the responses from the mail forms with

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the responses from the CATI/CAPI forms, assuming the computerized forms represent the truth as best as can be ascertained short of a follow-up survey. This estimating procedure is developed using, as an example, the 2007 ACS data. The symbol *LX* identifies the appropriate lines in Table 6.

1. First, form the ratio spouses to unmarried partners from the CATI/CAPI instrument (L7 = L6 / L5). This approximates the ratio of spouse/partner answers one could expect to find on the mail forms assuming that the CATI/CAPI forms are correctly answered and are representative of households who mail back their forms.²⁰ The ratio for this group for 2007 is 0.539 or approximately 1 spouse for every two unmarried partners.

- 2. Assuming the reports of unmarried partners on the mail forms (L2 = 294,640) are basically correct²¹, then the expected number of same-sex spouses from the counts of unmarried partners in the mail forms (*L6*) would be 159,550 (*L2*L7*).
- 3. The difference in the reported number of spouses in the mail forms (L3 = 277,214) and the expected number of spouses, (L8 = 159,550) yields the potential numbers of over reports of same-sex spouses due to gender mismarks (L9) which totaled 117,664 couples in 2007 or 16 percent of all unmarried couples (L21). The estimation of gender mismarks using this technique uses several assumptions:
 - 1) the CATI/CAPI forms represent correct and verified answers,

²⁰ As will be shown later, respondents in CATI/CAPI forms have different characteristics than those in mailout/mailback forms. One of the key differences is that about 22 percent of all same-sex couples (married and unmarried) in CATI/CAPI forms have householders who are Hispanic compared with 6 percent in the mailout/mailback forms.

²¹ Using first names to analyze reports of gender, it appears that only 3 to 4 percent of reports of the sex item from respondents who actually reported being same-sex unmarried partners could be mistakes. O'Connell and Gooding, *op. cit.*

- the ratio of the responses on these forms should be no different than the ratio of responses reported by households on the mail forms other than differences caused by errors in markings,
- 3) the estimates of unmarried partners on the mail forms are correct, and
- the CATI/CAPI population is similar to the mail form population in basic demographic characteristics.

Of course, the way people respond to an interviewer can be different from the way the report on a paper form in the privacy of their home. The higher ratio of reported spouses to unmarried partners in the mail forms could actually represent different response patterns when not in the presence of an interviewer. These estimates are presented to show the possible problems one could encounter when analyzing these data and not to provide exact estimates of errors on the ACS.

Given these cautions, the range of the proportion of total unmarried couples that could possibly be the result of gender mismarks over the 2003-2007 falls within a range of 7 to18 percent. This compares with the 21 percent estimate from the 2004 Test Census of New York using the most conservative level of acceptance for rejecting the gender response based on the respondent's name (Table 3, Line 9). What is the true proportion of same-sex couples erroneously categorized as such because of mismarks in the gender of the respondent? No one truly knows—these estimates, though, are warnings to data users who may attempt to indirectly derive estimates of married same-sex couples.

For 2007, some additional pieces of information are available to further disaggregate the distribution of same-sex couples by their reporting status. Using administrative data from the state registrar of Massachusetts and estimates provided by Gates, Badgett, and Ho²² on the number of registered civil unions and domestic partnerships through 2007, it can be estimated that as of 2007, there were probably a cumulative number of 11,145 samesex marriages performed and about 70,000 intact registered civil unions or domestic partnerships in the United States.

Given the cautions previously mentioned, Figure 3 shows the distribution of the responses for all of these categories for 2007. This distribution is based on modeled estimates as previously outlined using both ACS and administrative records data and is not produced by tabulating any micro-level data records by these categories on any Census Bureau data files.²³ About 55 percent of the couples in 2007 reported themselves as unmarried partners. Of the remaining 45 percent, the proportion of actually married same-sex couples was about 2 percent and another 9 percent were in registered unions. We estimated that another 16 percent were the result of marking errors in the gender item, while the remaining 19 percent were the residual category of socially defined marriages.²⁴

²² Gary Gates, M.V. Lee Badgett, and Deborah Ho, Marriage, Registration and Dissolution by Same-Sex Couples in the U.S. (The Williams Institute, UCLA School of Law: July 2008), Tables 2 and 3. ²³ In other words, there is no micro data file that specifically identifies couples in domestic

partnerships/civil unions or who made marking errors on their ACS forms.²⁴ When the estimates of gender mismarks were made using both sex and race-Hispanic origin specific spouse/partner ratios to address the differences in the population composition of the mail from the

The identification of legally married couples from those couples who are either in registered partnerships/unions, reporting a socially defined relationship or simply being classified in error is a daunting task. The following sections will explore some of the characteristics of unmarried couples by their reporting status, taking into consideration that the population of couples reporting themselves as same-sex spouses is a very heterogeneous combination of responses from many sources as outlined in Table 6.

Characteristics of Same-Sex Couples

The following section shows the characteristics of same-sex couples specific to the type of household and the sex of the partners based on the latest 2007 calendar year data from the American Community Survey. Table 7 first shows the distribution of household characteristics of opposite-sex and same-sex couples. The findings indicate that unmarried opposite-sex householders tend to be younger than both married opposite-sex and unmarried same-sex householders. The average age of unmarried opposite-sex householders. The average age of unmarried opposite-sex householders is approximately 37 years while for the other two couple types it is between 47 and 50 years. The data suggest that unmarried opposite-sex couples are the age of college students, as 51 percent are between the ages of 15 to 34 years, compared with only 16 and 19 percent of married opposite-sex and unmarried same-sex couples. Reflecting their younger age, a much smaller proportion unmarried opposite-sex couples report both partners with at least a Bachelor's degree than the other two couple types.

CATI/CAPI instruments, the gender mismark proportion was 17.6 percent and the socially defined marriage proportion was 16.8 percent.

Unmarried opposite-sex and same-sex couples both report higher proportions of interracial relationships than do married opposite-sex couples. Looking at another family composition indicator, 25 percent of unmarried same-sex couples report children in the household compared with 43 percent of both of the opposite-sex couples. Unmarried same-sex couples have the highest reported household income at \$103,000 and unmarried opposite-sex couples report the lowest average household income at just under \$64,000. Consistent with these income statistics, unmarried opposite-sex couples also reported high proportions of being below poverty level. They are also the least likely to report owning their home.

Next we further explore the demographics of same-sex couples by showing how they initially reported their partnership—as either married spouses or unmarried partners. Table 8 is divided between married (male-male and female-female) couples and unmarried (male-male and female-female) couples. By illustrating the couples data this way, we are able to examine the differences and similarities between these populations both by their original reports of relationship and by the gender of the households. It should be remembered that the characteristics shown for the assigned spouses are an aggregation of the four previously mentioned components of the group in Table 6 and are not to be considered the true characteristics of all couples who have been legally married in the United States or immigrants from countries where a marriage ceremony has been performed. For these reasons, the statistics shown in Tables 8, 8a, and 8b represent, as in the title of the paper, not official estimates but unofficial guesses.

Table 8 shows the distribution of household characteristics for same-sex couples by gender and the assignment status of the couple. Assigned same-sex couples who originally reported that they were spouses are older than those who reported being unmarried partners. Male couples, regardless of assignment status, are more likely to report being of Hispanic or Latino origin than female couples. Those reporting being unmarried partners, regardless of gender, are most likely to report being in interracial relationships.

Unmarried partners also had higher levels of educational attainment than the assigned spouses. At least 50 percent of unmarried partners had the householder with at least a Bachelor's degree compared with less than 40 percent of those couples assigned from married spouse. About 70 percent of unmarried partner couples, regardless of gender, report both partners being employed, compared with 47 percent of male couples and 52 percent of female couples assigned from spouse. Unmarried male couples have the highest reported household income at \$124,000. As expected, assigned from spouse female couples also report the highest proportion (17 percent) of being below poverty. Unmarried partners, regardless of gender, are least likely to report owning their homes.

To control for those respondents who may have mismarked their response to the item on gender on the paper forms, thus making them a same-sex couple when they really are not, we further display tabulations of same-sex couples by their response mode type. In other words, we divide the couples into groups that responded via the CATI/CAPI instrument and the mailout/mailback questionnaires. The CATI/CAPI data collection instruments

include check that allow respondents to verify that they are indeed in a same-sex relationship or to correct their previous answers when they are in fact in an opposite-sex relationship. We believe that the CATI/CAPI subsection will provide us with the most accurate reports free of respondent and interviewer errors to enable us to look at the characteristics of the same-sex couples that report being married compared with those same-sex couples who report being unmarried partners.

First, data shown in Table 8a are from the mailout/mailback format where the respondent in the household fills out the form without any interviewer present to either answer questions or to confirm any responses that may seem inconsistent. Unmarried partner households, regardless of gender, report higher proportions of interracial couples than assigned from spouse couples. Unmarried partner households also report higher levels of education, with 58 to 61 percent of householders holding at least a bachelor's degree compared with only 39 percent for those from assigned from spouse households. These results hold regardless of gender.

Unmarried partners are also considerably younger: the average age of the householder among female unmarried partners is 44 years compared with 51 years for these reporting they are married. The difference between men is even larger: 46 years for unmarried couple and 54 years for those originally reporting they were married couples. Regardless of the assignment status or gender of the couple, about 6 percent to 7 percent of the couples are Hispanic with slightly higher proportion of unmarried partners having the household white alone and not Hispanic (about 86 percent) compared with those households which were assigned from original report of spouses (about 82 percent).

Consistent with their younger ages, unmarried partner households are also more likely to have both partners employed. Around 70 percent of male and female unmarried partner households report both partners employed compared with only 45 percent of male and 52 percent of female assigned from spouse households. Overall, same-sex couples, regardless of gender or partnership type, report high levels of household income. This is especially prominent for unmarried male partner households that reported an average income of \$134,000. Unmarried partner households reported lower proportions of being in poverty than assigned from spouse couples for each respective gender. Assigned from spouse households are a more likely to own their homes than are the unmarried partner households, regardless of gender.

Table 8b now shows the data collected from the CATI/CAPI instrument, which allowed respondents to confirm the sex and relationship answers. By confirming both responses we are thus retaining the original response of a same-sex married-couple household, virtually free of any respondent or interview errors in reports or transcriptions. Therefore, this collection of data should produce the most accurate set of responses to the relationship and gender items we could possibly obtain.

Unfortunately, the characteristics of respondents on the CATI/CAPI instrument are very different from those on the mail forms. The CATI/CAPI instruments are used to obtain

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respondents who fail to mail in the forms or who require personal interviews such as in areas that may have difficulty receiving mail. In addition, the privacy of reporting on a mail form in one's own home is very different than that of reporting in an interviewerrespondent situation.

A notable demographic difference is in the proportion of householders who are of Hispanic origin. While the proportion of same-sex married-couple householders, who are Hispanic, regardless of gender, is about 6 percent in the mail forms (Table 8a), the corresponding proportions in the CATI/CAPI forms are 20 percent for female householders and 31 percent for male householders (Table 8b). Among those reporting that they are unmarried partners, there are also higher proportions of householders who are Hispanic in the CATI/CAPI forms. Correspondingly, the proportions of the householders among the same-sex married couples who are White alone, not Hispanic in the CATI/CAPI forms, are considerably lower. While 82 percent of male householders among married same-sex couples were White alone, not Hispanic, in the mail forms, the corresponding proportion was 50 percent in the CATI/CAPI forms.

Any examination of the characteristics of reported married same-sex couples in the CATI/CAPI instrument needs to take these differences in consideration. For example, the CATI/CAPI assigned spouse householders are younger and have lower proportions with at least a Bachelor's degree. They also have higher proportions of children in the household, and lower income levels, and home ownership percentages than those corresponding couples in the mail forms. How much of this truly characterizes same-sex couples who report that they are married and how much of this is attributable to the population structure being younger and Hispanic in the CATI/CAPI forms? These demographic differences are compounded by a more difficult issue of how same-sex couples report themselves as such on a paper form compared in a face-to-face interview.

Summary

This paper attempts to provide a historical background to the Census Bureau's attempts to collect, edit, and tabulate data on same-sex couples. By using various data sources, we illustrate that the composition of same-sex couples is not just those who report being married or unmarried, but those who are included in the aggregate total because of being in a socially defined living arrangement or because of marking errors on questionnaires.²⁴

Recognizing the pitfalls in describing the characteristics of the couples, this current project expands previous research by Simmons and O'Connell²⁵ that gave basic counts and descriptive information of same-sex couples using the 2000 Decennial Census. Simmons and O'Connell focused their research specifically on three primary characteristics of married-couple and unmarried-partner households, which were households with children under the age of 18 years, racial and ethnic descriptions, and average age of the householder and their partner/spouse. These tables fill an important

²⁴ Also included are those couples in living arrangements not currently asked in Census Bureau questionnaires: civil unions and domestic partnerships.

²⁵ Tavia Simmons and Martin O'Connell, "Married-Couple and Unmarried-Partner Households: 2000," *Census 2000 Special Reports*, CENSR-5 (February 2003).

gap in the analysis of the same-sex couples and provide a stepping-stone for further research in this area.

More importantly, we hope that this paper demonstrates that simply providing the public with detailed tabulations on the same-sex population, while satisfying the requests and needs of some data users, could present an unreliable or even incorrect social and demographic profile of this population. In order to produce more detailed statistics on the married same-sex population, we must first be confident that we have accurately identified the different populations in question.

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