SAME-SEX UNMARRIED PARTNER COUPLES IN THE AMERICAN COMMUNITY SURVEY: THE ROLE OF MISREPORTING, MISCODING AND MISALLOCATION

GARY J. GATES AND MICHAEL D. STEINBERGER*

*Gary J. Gates is the Williams Distinguished Scholar at The Williams Institute, UCLA School of Law and Michael D. Steinberger is an Assistant Professor of Economics at Pomona College and a Public Policy Fellow at The Williams Institute. All STATA MP 9.0 programs used to analyze the public use U.S. American Community Survey from IPUMS are available from authors upon request.

Abstract
The past quarter century has seen an increasing amount of research on the demographic characteristics and economic decisions of gay and lesbian Americans. The majority of the nationally representative research on same-sex couples in the United States uses the U.S. Census and American Community Surveys as primary data source. We utilize differences in data collection methods in the American Community Survey (ACS) from 2005-2007 to explore the role of misallocation in the identified same-sex unmarried partner sample. By comparing demographic and economic characteristics over the distribution of responses, we show a significant portion of identified same-sex households are likely incorrectly allocated different-sex married couples. Based on our analysis, we provide empirical guidance to researchers interested in obtaining accurate demographic and economic characteristics of same-sex households from the U.S. Census and American Community Survey.
.

I. INTRODUCTION

With the addition of an "unmarried partner" option in the household roster of the 1990 decennial census, the US Census Bureau created a more accurate way to enumerate same-sex cohabiting couples who were not merely roommates. However, procedures adopted in the 2000 decennial census and in subsequent American Community Surveys (ACS) may have created a high level of inaccuracy in the identification of cohabiting same-sex couples.

The issue involves a classic "false positive" problem common in attempts to enumerate small populations within a large survey. Relatively small errors within the larger population that misclassify some respondents into the smaller population can create a very large contamination within the smaller population. Census Bureau procedures routinely edit raw data to attempt to correct common errors and create consistency and improve accuracy of data released to the public. Unfortunately, some of these corrections regarding same-sex couples create a false positive measurement problem.

The measurement problem relates to the editing of same-sex "husbands" and "wives" in the household roster. In 1990, the Census Bureau assumed that a same-sex spouse likely represented a miscoding of the respondent's sex and in most cases edited the sex variable of the spouse to create a different-sex married couple. Since 2000, the Bureau instead assumes that the sex of the spouse is correct—since sex miscoding is amongst the rarest form of error (O'Connell and Gooding 2006)—and instead changes the "husband/wife" designation to that of an "unmarried partner." In essence, this procedure acknowledges that some same-sex couples, regardless of their legal federal marital status, may consider themselves to be married and identify one of the partners as a spouse. It also means that any different-sex married couples

who miscode the sex of one of the spouses are now coded as same-sex unmarried partner couples.[1]

To date, two analyses have attempted to assess the extent of this measurement error. Black et al. (2007) argue that this editing procedure creates a significant contamination problem within the same-sex couple sample. They suggest that as much as 40 percent of the identified same-sex couples are misclassified different-sex married couples and argue that the contamination can dramatically distort estimates of demographic traits like child-rearing among same-sex couples. O'Connell and Gooding (2006) assess the issue directly by considering the probability that first names are either male or female and assessing couple types based on a Census sample from a county in New York. They find that counts of same-sex couples are relatively accurate despite the transfers. But their findings also support the Black, et al. (2007) assertion that a potentially large portion of originally identified same-sex couples are possibly different-sex couples, though they estimate a smaller error, perhaps accounting for 20 percent of the same-sex couple sample.

Procedures for enumerating same-sex couples in the Census Bureau's American Community Survey (ACS) follow the Census 2000 protocols with one notable exception. More than a third of ACS respondent households use a Computer Assisted Telephone or Personal Interview (CATI/CAPI). In all computer assisted interviews, respondents are asked to verify the sex of a same-sex "husband" or "wife," arguably eliminating the possibility of a sex miscode in that group.

In this paper, we re-examine the issue of measurement error within the same-sex couples by exploiting the CATI/CAPI feature of the ACS and carefully considering which variables

[1] The Census Bureau argues that the federal Defense of Marriage Act, which defines marriage for federal purposes as being between one man and one woman, prohibits it from enumerating same-sex spouses.

might provide the best evidence for identifying miscoded different-sex couples within the same-sex couple sample. Our first goal is to reconsider the methods and results of Black et al. (2007) and offer a new framework for analyses that provide better intuition regarding the extent of the measurement problem. A key limitation to our analyses is that Census/ACS public use files do not provide explicit ways for researchers to separate same-sex couples who identified as spouses (the group most likely comprised of miscoded different-sex married couple) from those who identified as unmarried partners. Nevertheless, we suggest a framework of analysis that can be used with publicly available data to study the measurement error problem. Our framework can also be employed by those within the Census Bureau (or others who might gain access to confidential data) to study the problem with more accurate, confidential data.

Our second, and perhaps more important, goal is to offer guidance to researchers who wish to use Census and ACS public data samples to study same-sex couples. Our analyses are designed to offer empirical guidance to researchers interested in obtaining accurate demographic and economic characteristics of same-sex households in the ACS. Specifically, we offer different sample selection criteria that should be followed based on the focus of research analysis to be pursued.

Our findings cast doubt on Black et al.'s (2007) methodology of using the presence of children in the home to differentiate between same-sex and different-sex married couples. We argue that their approach to determining the measurement error is flawed due to correlations between child-rearing and how same-sex couples report their relationship status. We show that same-sex couples who use terms like husband and wife are more likely to have a child in the household. We therefore identify characteristics that are not as strongly correlated in this way, and further use a semi-parametric estimation strategy that offers more accurate estimates of the

measurement error. Our results suggest that the extent of the error is likely smaller than Black et al.'s estimates and slightly larger than those implied in O'Connell and Gooding (2006).

The next section discusses the principles underlying our assessment of measurement error. Section III describes the data and the methods we use for this assessment. Section IV presents the results of our analyses. Advice to researchers and conclusions are presented in Sections V and VI.

II. ASSESSING MEASUREMENT ERROR

The extent of the measurement error among same-sex couples is a function of the extent of sex miscoding among different-sex married couples. One technique for estimating the extent of the error within same-sex group would be to use the probability that different-sex married householders miscode their own sex or the sex of their spouses. In general, sex miscoding is likely rare. Unfortunately, few studies have addressed this issue and those that do are problematic. A US Census Bureau (1975) study using data from 1970 found that about 0.2 percent of all adults miscode sex. Assuming that householder and partner sex miscodes are equally likely and that the relatively frequency of different-sex married couples to same-sex couples is approximately 100 to 1, then this implies a miscoding rate for couples of 0.32 percent, and that nearly a quarter of the identified same-sex couple sample are in fact misclassified different-sex married couples. Of course, the sex miscoding probability among all adults may be quite different from the probability of miscoding among married couples and it may be that sex miscoding is not equally likely among householders and spouses. It seems more logical that one would be more likely to miscode the sex of a spouse than to miscode one's own sex. Direct evidence of the miscoding probability in the same-sex couple sample can be derived from O'Connell and Gooding (2006). They assess the issue by considering the probability that first

names are either male or female and assessing couple types based on a Census sample. Their findings also support an overall sex miscoding probability of approximately 0.2 percent for different-sex married couples, and that approximately 20 percent of identified same-sex couples may actually be different-sex couples. The difficulty with this estimate is that the sample used in this study (one county in New York) is far from random and may not be representative of the US population.

In the absence of this information, we consider another approach (drawing on the work of Black et al. 2007) to assess the extent of the error. We begin by describing how we conceptualize our assessment of measurement error among same-sex couples in Census/ACS data. This assessment involves analyses of four discrete subgroups of couples:

1. Same-sex couples who responded via the written survey and designated a partner as an "unmarried partner" (we call these "confirmed" same-sex couples).
2. Same-sex couples who responded via the written survey and designated a partner as a "husband/wife" (we will call these "unverified" same-sex couples).
3. Same-sex couples who responded via the CATI/CAPI method and designated a partner as either an "unmarried partner," or a "husband" or "wife."
4. Different-sex couples who responded via the written survey and designated a partner as "husband" or "wife" (different-sex married couples)

Our concern is that group 2, unverified same-sex couples, includes a portion of different-sex married couples who miscoded the sex of a partner.

Because the CATI/CAPI survey design re-verifies the sex of reported same-sex spouses, our analysis of measurement error focuses on survey participants who respond to the written survey instrument (groups 1 and 2). The conceptualization of how to assess the measurement

error is based upon finding a set of variables that will delineate between true same-sex couples and misclassified different-sex couples in the sample of same-sex spouses who used the written survey instrument (group 2).

Since the unverified same-sex sample is comprised of both true same-sex couples who use the term husband/wife (true same-sex spouses) and miscoded different-sex married couples, mean characteristics in the sample will therefore be a weighted average of the means of the characteristics among true same-sex spouses and different-sex married couples. As shown in Eq. 1, the weight provides an estimate for the extent of the sex miscoding in the sample as it identifies what portion of the unverified sample is likely different-sex married couples.

$$\overline{X}_{Unverified.SS.Spouses.Sample} = e\overline{X}_{MarriedDS.Partners} + (1-e)\overline{X}_{TureSS.Spouses} \quad (1)$$

Therefore, analysis of the proportion (e) of misclassified different-sex married couples in the same-sex sample hinges upon finding both an appropriate variable X to distinguish between couple types, and correctly identifying estimates from the true underlying populations. This estimate of measurement error can then be corroborated based on analysis of other distributional statistics (i.e. standard deviation) of the samples.

An appropriate characteristic for assessing the error must not simply differentiate same-sex and different-sex couples. To derive an accurate assessment of the error, the characteristic must also be unrelated to the decision of true same-sex couples to use the terms “husband” or “wife” to describe a same-sex partner. The decision to use terms like husband and wife instead of unmarried partner may suggest that a couple considers the relationship to be akin to a marriage. Carpenter and Gates (2008) and Badgett et al. (2008) offer some evidence that selection traits into marriage (using registered domestic partnership as a proxy for marriage among same-sex couples) are similar for same-sex and different-sex couples. If same-sex

couples who view themselves as married are different from other same-sex couples, then the procedure described above will be less effective in distinguishing between same-sex and different-sex couples if the characteristic used to delineate same-sex and different-sex couples is also a trait correlated with same-sex couples' probability of using the terms husband or wife.

For example, the decision of a couple to share a joint bank account may vary between same-sex and different-sex married couples. However, sharing a joint bank account would be a poor characteristic to use to estimate measurement error in the unverified same-sex sample because same-sex couples who share a bank account potentially are more likely than other same-sex couples to use the terms husband/wife to describe a partner. An estimate of measurement error using the procedure above based on use of a joint bank account would be biased because the rate among same-sex couples who use the term unmarried partner (and hence are in the confirmed same-sex sample) would not be the same as the rate of true same-sex couples in the unverified same-sex sample. We thus pursue our assessment of measurement error with the goal of finding a characteristic that differs between same-sex and different-sex married couples, but that among same-sex couples does not differ between those who use the unmarried partner designation and those who use husband or wife to describe a partner.

We can use the CATI/CAPI sample (group 3) to identify appropriate characteristics, X, which do not vary based upon whether a same-sex couple uses the terms husband/wife or unmarried partner. Since the CATI/CAPI response mode is not randomly assigned to survey participants, we cannot simply use CATI/CAPI estimates to identify the underlying characteristic estimates for the true same-sex sample. Instead, we will use analysis of same-sex couples who identified as unmarried partners in the written ACS survey instrument (group 1) to estimate the true distribution of selected characteristic estimates for same-sex spouses, $\overline{X}_{TureSS.Spouses}$.

Similarly, we will use only responses to the written survey instrument to obtain estimates for married different-sex couples (group 4) to estimate $\overline{X}_{MarriedDS.Partners}$. Further, we must also account for demographic differences between the true same-sex and different-sex married samples to obtain an accurate measurement of the error. To accurately compare samples, we must be sure that the age and racial distribution of the samples is equivalent so any sources of difference in characteristics are not simply because of the different demographic distribution of the samples.

III. DATA AND METHODS

The American Community Survey represents the only large, nationally-representative data source from which to ascertain ongoing counts and characteristics of same-sex couples in the United States. Designed to replace the decennial census long-form in 2010, the ACS is an annual survey of approximately 1.9 million households. Since 2005, the Census Bureau has released a Public Use Microdata Sample (PUMS) of ACS data representing 1% of the US household population. We combine the PUMS from the 2005, 2006, and 2007 ACS to construct a dataset with 12,173 same-sex female couples, 13,912 same-sex male couples, and 1,868,847 different-sex married couples.

Same-sex couples are identified based on responses to two questions, the household roster and the sex of household members. The ACS does not specifically ask any questions about sexual orientation or behavior. Same-sex couples in the ACS samples are those where a person aged 15 or older is identified as the "husband/wife" or "unmarried partner" of the householder and both persons are of the same sex.[2] The Census Bureau recodes any same-sex "husband" or "wife" as an "unmarried partner." Unfortunately, the PUMS data do not contain

[2] The census householder is based on the Census question "Start with the person, or one of the people living here who owns, is buying, or rents this house, apartment, or mobile home. If there is not such person, start with any adult living or staying here."

information that permits explicit identification of same-sex spouses who were changed to unmarried partners. While ACS data include a variety of "allocation" flags (variables indicating that Census altered the original response) this is not the case for the change from spouse to unmarried partner. That change, considered an "assignment edit," is not included in publicly released data.[3]

Black et al. (2007) suggest a way to identify observations in the same-sex couple sample that most likely used the "husband" and "wife" household roster responses. After the household roster and sex questions, the ACS includes a question about each household member's marital status. Census Bureau procedures do not permit either partner in an "unmarried partner" household (same-sex or different-sex) to identify as "currently married." If either partner in an unmarried partner household identifies as currently married, that response is altered via a "hot-deck" procedure. Unlike the assignment edit described above, this change is flagged in the data via a marital status allocation flag variable. When this allocation flag is marked it means that the original marital status response was altered. In the case of same-sex couples, if most who identified a partner as a "husband" or "wife" also said that they were "currently married," then their marital status response is changed and the marital status allocation flag provides the mechanism to identify this group. This is the group explicitly prone to the measurement error resulting from different-sex married couple sex miscoding. Census Bureau officials have confirmed a high (though not perfect) correlation between the marital status allocation flag and the assignment edit flag (not available in public data) associated with the household roster change (Black et al. 2007). In this analysis, we assume that same-sex couples where one or both

[3] Assignment edits are distinguished from allocation because they involve a specific change that is always the same under a certain set of conditions. Allocations usually involve a procedure called "hot-decking" whereby responses are determined based on a statistical procedure that takes into account a variety of factors. Unlike an assignment edit, the outcome of an allocation is not pre-determined.

partners have a marital status allocation represent couples who originally identified the "unmarried partner" as a "husband" or "wife."

The ACS PUMS also include a variable that indicates the response mode, either paper or CATI/CAPI. CATI/CAPI respondents are likely free of sex miscoding since the sex of a same-sex "husband" or "wife" is verified in a follow-up question. Households are not randomly assigned to respond with mail-in versus CATI/CAPI. Instead, CATI/CAPI responses are comprised of households that did not respond to the mail-in survey within a specified time period. Households either receive a phone call instructing them in the CATI procedures or they receive a home visit to administer the CAPI survey instrument. In general, regardless of couple type, CATI/CAPI respondents have characteristics that are very different than respondents that responded to the mail-in form. For instance, CATI/CAPI respondents are more likely to have children and have lower educational attainment than mail-in respondents (see Table 1 discussed below).

For our purposes, we divide the same-sex couples into four distinct groups and interpret the composition of these groups differently based on their response mode and marital status allocation. These groups and our interpretation are shown in Figure 1.

Figure 1. Interpretation of sub-groups of same-sex couples by response mode and marital status allocation

		Marital status allocation	
		Not-allocated	Allocated
Response mode	Mail-in	(1) Same-sex couples who used the "unmarried partner" designation	(2) A combination of same-sex spousal couples who used the "husband/wife" designation and different-sex married couples who miscoded the sex of one spouse
	CATI/CAPI	(3) Same-sex couples who used the "unmarried partner" designation	(4) Same-sex couples who used the "husband/wife" designation

Non-shaded Quadrants (1), (3), and (4) represent same-sex couples who we believe are largely free of measurement error. Same-sex couples from these three quadrants comprise the confirmed same-sex couple sample. Our focus in assessing error will be on the shaded quadrant (2) comprised of same-sex couples who used a mail-in response and where one or both partners has a marital status allocation. Same-sex couples from this quadrant comprise the unverified same-sex couple sample.

An initial analysis of the distribution of same-sex couples across the subgroups shown in Figure 1 suggests that a level of misclassification of 40 percent suggested in Black et al. (2007) may be too high. Approximately 41 percent of the same-sex male couples and 36 percent of the same-sex female couples are classified as quadrant (2), the subsample likely prone to error. For the 40 percent misclassification to be correct, the entire sample of mail-in allocated responses for same-sex couples would need to be misclassified different-sex married couples.

We use a DiNardo, Fortin and Lemieux (1996) (DFL) semi-parametric reweighting procedure to account for background demographic differences between the confirmed same-sex couple sample, the different-sex married sample and the unverified same-sex couple sample.

The DFL technique allows us to fully control for distributional differences in demographic traits like age and race between samples. The procedure reweights the observations of one sample (confirmed same-sex couples, or different-sex married couples) to have the same distribution of age and race as another sample (unverified same-sex couples). Using the technique we can estimate the distribution of characteristics within various samples if they had the same distribution of age and race as the unverified same-sex couple sample.

We estimate the DFL by fully interacting four race and ethnic categories (black, Hispanic, white, and other) dummies and eight variables representing decade of age (15-24, 25-34, . . ., 85-95). The resulting 31 mutually-exclusive dummy variables denote the decade of age and race of every observation in the sample.[4] The DFL analysis then reweights the relative distribution of observations across these age and race categories so the confirmed same-sex couple sample and different-sex married sample have the same distribution as the unverified same-sex couple sample. The DFL procedure assigns a new sampling weight to each observation based on its unique age and race, but leaves unchanged all characteristics (age, race, age difference between partners, children in the home, veteran status, etc.) of the observation. Hence the procedure allows analysis of the distribution of characteristics in the reweighted samples, and is not limited to only mean analysis. For a more detailed description of the DFL decomposition see DiNardo, Fortin, and Lemieux (1996).

As noted in Lemieux (2002), because the DFL analysis is based on mutually exclusive dummy variables, the resulting distribution across decade of age and race categories will be exactly the same among the three samples.[5] This is useful for our analysis because any

[4] Because of sample size limits, the interaction terms for (other race)*(age 75-84) and (other race)*(age 85-95) are combined into a single term, (other race)*(age 75-95).

[5] The distribution of 75-84 and 85-95 year-olds varies very slightly between reweighted samples because the two top deciles of age for other race are combined in the DFL analysis.

remaining differences in other characteristics between the reweighed samples and the unverified same-sex sample cannot be the result of age or race differences between samples, because the three samples do not vary by decade of age or race.

IV. RESULTS

Couple-based Estimates of Measurement Error

Recall that conceptually, a key component in assessing the extent of measurement error in the unverified same-sex couple sample is selecting a variable that can differentiate same-sex from different-sex married couples, but is not correlated with the probability of calling a same-sex partner a husband or wife. The Black et al. (2007) analysis relies on the fact that sexual orientation provides variation in the probability of raising children. They estimate individual probit models to predict the presence of children in the home for different-sex married couples and for same-sex without marital status allocation flags. From these two sets of probit coefficients, they then estimate rates of child-rearing in the sample of same-sex couples believed to be most prone to error (those with a marital status allocation). From these two mean estimates they assess the degree to which the same-sex sample with marital status allocation is comprised of same-sex versus different-sex married couples.

The Black et al. (2007) analysis uses the presence of children in the household to distinguish between same-sex couples and different-sex married couples. A concern with this approach is that the decision to raise a child may be positively correlated with calling a same-sex partner a spouse (like the joint bank account example from above). If this is true, then the probit estimate using the same-sex sample with no marital status allocation will not provide a reasonable estimate for the true rate of child-rearing of same-sex couples who refer to their partner as a husband or wife (and hence have their marital status allocated). The rates of child-

rearing may be more similar between same-sex couples who use the term husband/wife and different-sex married couples, than between same-sex couples who use the term husband/wife and other same-sex couples who use the unmarried partner designation. If this is true, then this will seriously bias estimates of the measurement error in the same-sex sample with marital allocation.

In our analysis with ACS data, we are able to use the marital status allocation and the response mode to assess differences between same-sex couples and different-sex married couples, as well as the differences between same-sex couples who use the terms husband/wife versus unmarried partner. Table 1 shows means for characteristics by couple type, response mode and marital status allocation. In addition to child-rearing, we present variables known to show differences between same-sex and different-sex couples. Jepsen and Jepsen (2002) observe that those in same-sex partners are younger and there is greater heterogeneity within same-sex couples than within married couples with regard to age and racial/ethnic differences (see also Simmons and O'Connell 2003). Several studies have shown that same-sex couples have higher college graduation rates and are more likely to live in metropolitan areas than different-sex married couples (Black et al. 2000; Black et al. 2002; Gates and Ost 2004; Antecol et al. 2008; Carpenter and Gates 2008). Black et al. (2000) and Gates (2004) show substantial differences in the probability of military service between men and women in same-sex couples and those in different-sex married couples. Our goal is to find characteristics in which same-sex spousal couples appear more similar to their same-sex unmarried partner counterparts than to their different-sex married counterparts.

The simplest comparison to assess whether same-sex couples with their marital status allocated (because they likely used the term husband/wife) share more in common with different-

sex married couples or with other same-sex couples without marital status allocation (because they used the term unmarried partner) is to make comparisons among the CATI/CAPI responses. Because of the double verification of sex in the computer-assisted response modes, we assume that CATI/CAPI responses among same-sex couples exclude any different-sex married couples who miscoded the sex of a spouse.[6]

While CATI/CAPI responses are not randomly selected, we might assume that selection biases into CATI/CAPI do not necessarily differ between same-sex and different-sex couples.[7] If this is true, then we can compare CATI/CAPI estimates in columns (2) and (4), same-sex couples with and without marital status allocation (i.e. couples who used the term unmarried partner versus husband/wife), and CATI/CAPI estimates in columns (4) and (6), same-sex couples with allocated marital status and different-sex married couples. We argue that when the former estimates ((2) and (4)) show significantly more similarity than the later estimates ((4) and (6)), this indicates a variable that differs more between same-sex couples and different-sex married couples than between same-sex couples who use the terms husband/wife and those that use the term unmarried partner. A variable must follow this pattern to be useful in assessing measurement error in the unverified same-sex sample.

Using these comparisons, we find evidence that child-rearing may be highly correlated with the decision to use husband or wife to describe a partner. Among CATI/CAPI same-sex couples who used unmarried partner in column (2), 21 percent of male same-sex couples and 38 percent of their female counterparts are raising children. This compares to the 56 percent and 48 percent, respectively, of the comparable same-sex couples who used husband/wife shown in

[6] This assumption follows Black et al. (2007) who make a similar assumption with the Current Population Survey since it too uses computer assisted interviewing.
[7] Summary statistics shown in Appendix Table 1 demonstrate that selection patterns into the CATI/CAPI response mode appear to be similar for same-sex and different-sex married couples.

column (4). These latter couples are more similar to the 56 percent of different-sex married CATI/CAPI respondents raising children shown in column (6).

The age difference of partners is the only variable among this list in which we find evidence among both male and female couples that same-sex couples with allocated marital status are more similar to their same-sex counterparts without marital status allocation than to their different-sex married counterparts. For this reason, we argue that this is an appropriate variable to assess the extent of measurement error within the same-sex couple sample.

While analyses based on mean differences between the columns in Table 1 are instructive, they do not adequately account for raw differences in the samples based on collection method. Members of same-sex couples identified in the mail-in survey with marital allocation are older than other identified same-sex couples and have a different degree of racial heterogeneity. To the extent that race and age affect the characteristics used to estimate measurement error, simple mean analysis of differences between the samples will confound differences based on race and age with other differences in the samples. Hence we must account for age and racial differences when we estimate the degree of measurement error in the unverified same-sex sample. As we have stated, Black et al. (2007) use a probit estimation strategy to estimate the extent of the measurement error. We believe the DFL technique offers a better methodology as it allows us to examine differences across the full distribution of a characteristic, not simply differences at the mean. Further, if the influence of race/ethnicity or age is not linear, the semi-parametric DFL procedure is preferable to the linear probit analysis.

Table 2 shows the results of the DFL decomposition using the age difference of the partners as the dependent variable. We estimate that 86.2 percent of the unverified same-sex male sample and 66.0 percent of the unverified same-sex female sample is likely comprised of

different-sex married couples. When considering the full sample of identified same-sex couples, these figures imply that just over 30 percent may be misclassified different-sex married couples—still a sizable error, but about 25 percent lower (10 percentage points lower) than the estimated percentage of misclassification from Black et al. (2007) and somewhat higher than those implied by findings in O'Connell and Gooding (2006).

Using the number of estimated misclassified different-sex married couples in the unverified same-sex couple sample, we can also deduce a sex miscoding rate of different-sex married couples that would lead to these estimates. Based on the results from Table 2, we estimate a sex miscoding rate of 0.25 percent within the different-sex married couple sample would lead to the estimated level of measurement error found in our analysis. This level is less than the estimated rates obtained from 1975 US Census Bureau estimates of sex miscoding and similar to those implied in O'Connell (2006).

The DFL analysis also allows us to use the distribution of age difference between partners in the unverified same-sex sample to corroborate our estimates of measurement error. If our analysis is correct and 86.2 (66.0) percent of the unverified same-sex male (female) couple sample is comprised of misclassified different-sex married couples, then the standard deviation of age difference in the unverified sample should be equivalent to the standard deviation obtained in a random subsample of observations comprised of 13.8 (34.0) percent from the confirmed same-sex male sample and 86.2 (66.0) percent from the different-sex married sample. To test this hypothesis, we conducted 1000 Monte Carlo simulations randomly choosing 919 (1738) observations from the confirmed same-sex sample and 5737 (3374) from the different-sex married sample to construct a hypothetical sample with the same estimated percentage of measurement error as the unverified same-sex male (female) sample. For each Monte Carlo we

estimated the standard deviation of age difference between partners in the randomly chosen sample. Using these standard deviations, we constructed a window of standard deviations comprising 95 percent of Monte Carlo estimates. For both the unverified same-sex male and unverified same-sex female samples, the actual standard deviation of the sample fell within the estimated window of standard deviations obtained from the Monte Carlo estimates.

Intra-Household-based Estimates of Measurement Error

A second method that may provide insights into the extent of measurement error involves intra-household differences between same-sex and different-sex married couples. Splitting the samples into householders and spouses/partners may be useful in assessing measurement error based on characteristics that vary more prominently by sex then by sexual orientation since approximately 70.5 percent of householders among different-sex married couples are male. In the previous analysis we conceptualized the procedure to identify error as assessing the degree to which the unverified same-sex *couple* sample share characteristics with confirmed same-sex *couples* and different-sex married *couples*. In this second procedure, we separately examining householders and spouses/partners to assess the degree to which householders in the unverified same-sex sample compare to householders in the different-sex married couples sample (predominantly men) and partners in the unverified same-sex sample compare to spouses in different-sex married couples (predominately women). In this analysis, our goal is to find a variable whereby variation by sex is more distinctive than variation by sexual orientation.

Many measures of labor force attachment vary widely between men and women. Average wages, annual hours and the likelihood of being out of the labor force all vary markedly between men and women. However, none of these variables likely provide a reasonable basis to evaluate measurement error in the unverified same-sex sample because same-sex couples who

identify as married are likely to display significantly different patterns of household specialization than other same-sex couples. As discussed in Antecol and Steinberger (2009), same-sex and different-sex married couples each would benefit from having one member specialize in market-oriented work and the other member focus more on household production. Hence same-sex couples who use the terms husband and wife will likely have different intra-household divisions of labor supply than other same-sex couples.

We argue veteran status may be a variable that differs more substantially by sex than by sexual orientation. If veteran status does vary more by sex than by sexual orientation, we can examine if the spouses (householders) in the unverified same-sex male (female) sample share traits more in common with men or with women. This is an intra-household strategy to identify misallocation in the unverified same-sex sample. In Table 3 we compare householders and partners of male (female) same-sex couples to married householders and spouses, respectively. We show estimates from the unverified same-sex couple sample in column (3), the confirmed same-sex couple sample in column (1), the same-sex CATI/CAPI responses in (2) and (4), and the different-sex married sample in columns (5) and (6). Given the distinctive sex composition of householders and spouses in the different-sex married couple sample, it is no surprise that householders in the sample are more likely to be veterans than their spouses. Differences between householders and partners in veteran status are much smaller in the confirmed same-sex couple samples, except for in the allocated CATI/CAPI same-sex female sample.

In the different-sex married sample, husbands are both more likely to be the householder and are more likely to be veterans than their wives. Table 4 extends the DFL analysis to use this intra-household variation in veteran status to further explore measurement error in the unverifeid sample. Householders (partners) in the confirmed same-sex couple samples are reweighted to

have the same distribution of race and decade of age as householders (partners) from the unverified same-sex sample, as equivalently are householders (spouses) from the different-sex married sample. Again, our samples are the same as in our previous analysis and rely solely on observations who responded to the written survey instrument. In the reweighted samples, intra-household differences in veteran status are striking. Intra-household differences in veteran status are not large for confirmed same-sex couples. Column (2) shows that in the re-weighted confirmed same-sex male (female) sample householders 24.5 (6.3) percent are veterans, compared to 20.8 (7.1) percent of partners. However, intra-household differences between the householder and partner in the unverified same-sex sample (Column (1)) closely resemble the intra-household differences in the different-sex married couple sample (Column (3)), and are significantly different than the rates found in the confirmed same-sex samples.

Specifically, 19.4 percent of same-sex householders in the unverified same-sex female sample are veterans, similar to the 22.5 percent of veterans among different-sex married householders, yet much higher than 6.3 percent of veterans among householders from the confirmed same-sex sample. Since men are much more likely to be veterans than women, this result implies that there may be a high incidence of misclassified different-sex married men in the unverified sample of same-sex female householders. Alternatively in the unverified same-sex male sample, the clear veteran status difference is observed for partners/spouses. Approximately 6.5 percent of unmarried partners in the unverified sample are veterans, which is significantly closer to the 7.2 percent of veterans among spouses in the different-sex married sample than the 20.8 percent of veterans among unmarried partners in the confirmed same-sex sample. This implies that that there may be a high incidence of misclassified different-sex married women in the unverified sample of same-sex male partners.

Based upon the intra-household DFL analysis, we estimate that 81 percent of the unverified same-sex female sample may be misclassified different-sex married couples, in line with our couple based estimate above. The results for the unverified same-sex male sample confirm a high level of measurement error in the sample, but do not permit an estimate for the percent of the sample comprised of misclassified different-sex married couples. An estimate for the measurement error is not possible in the male sample (and the female partners sample) because the results in the unverified sample do not fall between the levels in the confirmed same-sex sample and the different-sex married sample. This could arise if men are more likely to be the householders in misclassified different-sex married couples than in properly classified different-sex married couples. In this case, intra-household differences in veteran status would be more severe in the unverified sample than in the different-sex married sample.[8]

Taken together, the results for the intra-household analysis confirm the results from the couples based analysis. There is a high level of measurement error in the unverified same-sex sample. Further, the intra-household evidence confirms that partners in the unverified same-sex male sample show more similarity with spouses from the different-sex married sample (predominantly women) than partners from the confirmed same-sex male samples (all men). Householders in the unverified same-sex female sample show more similarity with householders from the different-sex married sample (predominantly men) than partners from the confirmed same-sex female samples (all women).

V. ADVICE FOR RESEARCHERS

We have devoted the bulk of this paper to considering how to better assess the extent of measurement error within the same-sex couple sample. While this is certainly an important topic

[8] If we compare householders in the unverified same-sex male sample only to male householders from different-sex married couples, and partners from the unverified same-sex male sample only to female spouses from different-sex married couples, we obtain estimates of measurement error in the sample of 59 to 71.2 percent.

for Census officials and other researchers as they consider ways to improve the quality of this sample, our analyses also provide guidance for researchers interested in using Census and ACS data for studies of same-sex couples. In this section, we offer recommendations and limitations with regard to different types of analyses involving same-sex couples.

The Census Bureau (O'Connell and Gooding 2006) asserts that counts of same-sex couples are likely not terribly affected by measurement error. In that case, researchers interested in estimating the size of the same-sex couple population should feel confident using official Census estimates. However, for researchers considering the demographic characteristics of same-sex couples, our analyses (along with O'Connell and Gooding 2006) indicate considerable caution as accurate estimates of characteristics may be affected by the contamination of different-sex couples within the same-sex couple sample. Depending on the nature of the research, scholars have several options to improve the quality and accuracy of the same-sex couple sample.

All of the options we present are limited by the inability to explicitly identify same-sex unmarried partners who were originally coded as same-sex husbands and wives. A decision by the Census Bureau to include the appropriate assignment edit flag in public use data or to not edit the spousal responses of same-sex couples would improve the ability of researchers to compensate for this measurement error. In the absence of such decisions, researchers must proxy the identification of same-sex spouses through the use of the marital status allocation flag.

General analyses of demographic characteristics

In general, we argue that the ACS data released since 2005 can provide the most accurate sample of same-sex couples. We recommend restricting the sample to exclude couples where one or both partners have a marital status allocation and where responses were submitted by

mail. By including all CATI/CAPI responses, regardless of marital status allocation, some same-sex couples who identified as husbands or wives will be included in the sample. This helps to overcome possible bias associated with limiting the written survey same-sex sample to only those who use the unmarried partner designation.

Researchers can gain insights into the direction of the bias created by excluding true same-sex spousal couples who responded via the written survey instrument by comparing the CATI/CAPI respondents by their marital status allocation status. We find that same-sex couples who likely used the spousal designation (couples with an allocation) were more likely to be raising children, were older, had lower educational attainment, had less racial/ethnic diversity and were more likely to not be living in a metropolitan area. Gates and Carpenter (2008) along with Badgett et al. (2008) compare California cohabiting non-registered partners to those in registered partnerships (which could offer a proxy for marriage). Consistent with our findings, they observe that women in registered partners were more likely to be raising children (men were actually less likely), are older, and are less racially and ethnically diverse. Contrary to our findings, they observe that those in registered same-sex couples have higher educational attainment.

One other limitation to note in this method is that the marital status variable will not be accurate and should not be used for analysis. Since nearly a sixth of this sample will include individuals with a marital status assigned by the Census Bureau through its allocation process, researchers will not be able to accurately assess what portion of those in same-sex couples have been never married, widowed, or divorced. Because of the uniquely high degree of allocation of this variable specifically within the same-sex couple sample, it cannot be considered reliable for analyses.

Trend analyses or comparisons prior to 2005

Same-sex unmarried partner couples have been identifiable in Census data since 1990. Some researchers might wish to consider trend analyses of demographic characteristics that would require comparable samples from Census 1990, Census 2000, and subsequent American Community Survey data. The Census Bureau officially cautions against comparisons between the 1990 data and subsequent datasets (U.S. Census Bureau 2001). Given that same-sex spouses are included in the Census 2000 data and not in the 1990 Census data, this caution is certainly true if researchers are using counts of same-sex couples. However, it is not clear that this caution need apply to consideration of demographic traits.

Restricting the sample to only couples without a marital status allocation provides a reasonable way to proxy for comparability across enumerations of same-sex couples in the 1990 and 2000 Censuses and in the ACS data. However, researchers should be explicit that while this restriction allows for better comparability, it excludes all same-sex couples that designate a partner as either a husband or wife. The analyses would be documenting trends only among couples who do not consider themselves to be married. It is possible that the use of the terms husband and wife within same-sex couples has increased over time. This trend would potentially bias a variety of demographic characteristics associated with viewing the same-sex relationship as a marriage, possibly including child-rearing, age, educational attainment, racial/ethnic composition, and geographic location.

Comparing same-sex married couples to unmarried partners

Given the advent of marriage rights for same-sex couples in several states in the US, researchers may be interested in attempting to compare same-sex married couples to unmarried ones. While we have used the CATI/CAPI sample in these analyses to make such comparisons,

we clearly acknowledge that the CATI/CAPI sample is not random and is subject to substantial selection bias. So while comparisons within the CATI/CAPI sample may provide insights about differences between same-sex couples who use the terms husband/wife or unmarried partner within this selected sample, the ACS data simply do not provide an unbiased sample of all same-sex couples who refer to a partner as a husband or wife.

We would also strongly caution researchers from making any assumptions that the presence of a same-sex husband or wife means that the couple has been legally married. In the 2005-2007 timeframe of the ACS, legal marriage for same-sex couples in the US was only available to residents of Massachusetts and to couples who traveled to Canada. Through mid-2008, Massachusetts had only married approximately 10,400 same-sex couples (Gates et al. 2008). The CATI/CAPI sample of same-sex couples with a marital status allocation alone represents as many as 78,000 same-sex couples. Given the absence of legal marriage in the locales of so many same-sex couples, it seems likely that many use the terms husband and wife even though they have not been legally married. They may have been married in a religious ceremony or had some other type of commitment ceremony or they may simply consider themselves to be married. But until marriage for same-sex couples is more widespread throughout the US, researchers should not assume that calling a same-sex partner a spouse is synonymous with legal civil marriage.

VI. CONCLUSION

Our analyses demonstrate that same-sex couples indentified in the public use ACS data suffer from a severe measurement error problem. While we find that the extent of the contamination of same-sex couples with different-sex married couples who miscoded the sex of a partner is not quite as high as previous estimates, the problem still creates serious distortions of

estimates of demographic characteristics. As such, we encourage the Census Bureau to re-evaluate the wisdom of the procedure that recodes all same-sex spouses as unmarried partners. Allowing researchers to explicitly identify same-sex spouses would improve both the quality and the accuracy of public use data and subsequent analyses of the data.

The good news is that the ACS samples available since 2005 provide researchers with a more accurate portrait of same-sex couples. This will be useful for scholars who wish to offer more accurate insights into prominent lesbian and gay policy debates about marriage rights, child-rearing, employment discrimination and military service. Despite its limitations, the ACS samples offer a more complete picture of same-sex couples by including at least some who identify themselves as husbands and wives.

We close by noting that major national surveys like the National Epidemiologic Survey on Alcohol and Related Conditions, the National Survey of Family Growth and the General Social Survey have added sexual orientation questions. While the CATI/CAPI response mode in the ACS marks an improvement, quality data that can identify the lesbian, gay, bisexual (LGB) population remains limited and population-based data on the transgender population is virtually non-existent. Sound scholarly input into the many LGBT-related policy debates will require significantly more data collected in probability-based samples on an ongoing basis. Our analysis provides a methodology to assess measurement error and improve the quality of same-sex couple data. But more needs to be done. We encourage both private and public entities to initiate efforts to collect higher quality data that can identify sexual minorities within probability samples.

References:

Antecol, Heather, Anneke Jong, and Michael Steinberger. 2008. "The Sexual Orientation Wage Gap: The Role of Occupational Sorting and Human Capital." *Industrial and Labor Relations Review*, Vol. 61, No. 4 (July), pp. 518-543.

Antecol, Heather, and Michael Steinberger. 2009. "Female Labor Supply Differnces by Sexual Orientation: A Semi-Parametric Decomposition Approach." Working paper.

Black, Dan, Gary Gates, Seth Sanders, and Lowell Taylor. 2000. "Demographics of the Gay and Lesbian Population in the United States: Evidence from Available Systematic Data Sources," *Demography* 37: 139-154.

Black, Dan, Gary Gates, Seth Sanders, and Lowell Taylor. 2007. "The Measurement of Same-Sex Unmarried Partner Couples in the 2000 U.S. Census," CCPR Working Paper Series CCPR-023-07.

Black, Dan A., Hoda R. Makar, Seth G. Sanders, and Lowell J. Taylor. 2003. "The Earnings Effects of Sexual Orientation." *Industrial and Labor Relations Review*, Vol. 56, No. 3 (April), pp. 449-69.

Clain, Suzanne Heller and Karen Leppel. 2001. "An Investigation into Sexual Orientation Discrimination as an Explanation for Wage Differences." *Applied Economics*, Vol. 33, Issue 1 (January), pp. 37-47.

Gates Gary, Randall Sell. 2006. "Measuring Gay and Lesbian Couples" in *The Handbook of Measurement Issues in Family Research*, eds. S Hofferth and L Casper. Lawrence Erlbaum Associates, Inc.

Jepsen, Lisa K., Christopher A. Jepsen. 2002. "An Empirical Analysis of the Matching Patterns of Same-sex and Opposite-sex Couples." *Demography*, Vol. 39, Number 3 (August), pp. 435-453.

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

Simmons, Tavia and Martin O'Connell. 2003. "Married Couple and Unmarried-Partner Households: 2000." Washington, DC: U.S. Census Bureau.

U.S. Census Bureau. 2008. "Accuracy of Data (2007)." *American Community Survey, How to Use the Data: Accuracy of the Data*. Washington, DC: U.S. Census Bureau.

U.S. Census Bureau. 1975. "Accuracy of Data for Selected Population Characteristics as Measure by the 1970 CPS-Census Match." *1970 Census of Population and Housing,*

Evaluation and Research Program Report. Washington, DC: U.S. Government Printing Office.

US Census Bureau. 2001. Technical Note on Same-Sex Unmarried Partner Data From the 1990 and 2000 Censuses. *Population Division, Fertility & Family Statistics Branch*.

Table 1. Summary Statistics for Individuals by Couple Type, Response Mode and Marital Allocation

Panel A: Same-Sex Male Couples					Different-Sex Married Couples	
	No Marital Status Allocation		Marital Status Allocation			
	Mail-in	CATI/CAPI	Mail-in	CATI/CAPI	Mail-in	CATI/CAPI
	(1)	(2)	(3)	(4)	(5)	(6)
Age	44.037	39.757	52.899	42.122	51.387	45.507
	(11.695)	(11.302)	(14.694)	(13.631)	(15.011)	(13.957)
Age Difference Between Partners	6.859	6.721	4.487	6.644	3.784	4.094
	(6.874)	(6.603)	(5.955)	(8.540)	(4.015)	(4.215)
Both Parterns Same Race	0.780	0.785	0.928	0.911	0.931	0.916
	(0.414)	(0.411)	(0.258)	(0.285)	(0.254)	(0.277)
College Graduate or Above	0.521	0.351	0.357	0.210	0.358	0.231
	(0.500)	(0.478)	(0.479)	(0.407)	(0.479)	(0.421)
Households with Children	0.056	0.210	0.305	0.564	0.400	0.562
	(0.231)	(0.407)	(0.461)	(0.496)	(0.490)	(0.496)
Households with Grandchildren	0.004	0.017	0.022	0.039	0.023	0.037
	(0.063)	(0.128)	(0.148)	(0.194)	(0.151)	(0.188)
Metropolitan Area	0.908	0.854	0.771	0.792	0.757	0.726
	(0.288)	(0.353)	(0.420)	(0.406)	(0.429)	(0.446)
Veteran Status	0.115	0.091	0.168	0.078	0.153	0.104
	(0.320)	(0.287)	(0.374)	(0.268)	(0.360)	(0.306)
Observations	10682	2176	13312	1654	2710372	1027043
Weighted Percentage of Sample	0.348	0.136	0.411	0.105	0.618	0.382
Panel B: Same-Sex Female Couples					Different-Sex Married Couples	
Age	43.080	39.039	50.166	46.187	51.387	45.507
	(12.424)	(11.361)	(14.801)	(14.258)	(15.011)	(13.957)
Age Difference Between Partners	6.075	6.825	4.921	6.581	3.784	4.094
	(6.520)	(7.268)	(6.399)	(8.724)	(4.015)	(4.215)
Both Parterns Same Race	0.858	0.827	0.922	0.924	0.931	0.916
	(0.350)	(0.378)	(0.268)	(0.266)	(0.254)	(0.277)
College Graduate or Above	0.514	0.331	0.375	0.243	0.358	0.231
	(0.500)	(0.471)	(0.484)	(0.429)	(0.479)	(0.421)
Households with Children	0.223	0.381	0.372	0.479	0.400	0.562
	(0.416)	(0.486)	(0.483)	(0.500)	(0.490)	(0.496)
Households with Grandchildren	0.021	0.025	0.035	0.059	0.023	0.037
	(0.143)	(0.156)	(0.183)	(0.237)	(0.151)	(0.188)
Metropolitan Area	0.846	0.811	0.771	0.751	0.757	0.726
	(0.361)	(0.391)	(0.420)	(0.433)	(0.429)	(0.446)
Veteran Status	0.053	0.058	0.135	0.089	0.153	0.104
	(0.225)	(0.235)	(0.342)	(0.285)	(0.360)	(0.306)
Observations	10546	2088	10224	1488	2710372	1027043
Weighted Percentage of Sample	0.386	0.149	0.359	0.106	0.618	0.382

Notes: Means with standard errors in parentheses. Observations are weighted by the appropriate Census sampling weight.

Table 2. DiNardo Fortin Lemieux Results

	Unverified Same-Sex Couple Sample	Re-Weighted Confirmed Same-Sex Couple	Re-Weighted Different-Sex Married Couple	Predicted Composition of Unverified Same-Sex Sample	
				Same-Sex Couples	Different-Sex Married Couples
	(1)	(2)	(3)	(4)	(5)
Panel A: Same-Sex Male Couples					
Age Difference Between Partners	4.452	8.243	3.843	13.8%	86.2%
	(5.867)	(8.338)	(4.062)		
Observations	13292	10674	2710372		
Panel B: Same-Sex Female Couples					
Age Difference Between Partners	4.894	7.076	3.769	34.0%	66.0%
	(6.353)	(7.512)	(4.028)		
Observations	10208	10528	2710372		

Notes: Means with standard errors in parentheses.

Table 3. Veteran Status of Individuals by Couple Type, Response Mode and Marital Allocation and Householder Status

Panel A: Same-Sex Male Couples					Different-Sex Married	
Housholders						
	No Marital Status Allocation		Marital Status Allocation			
	Mail-in	CATI/CAPI	Mail-in	CATI/CAPI	Mail-in	CATI/CAPI
	(1)	(2)	(3)	(4)	(5)	(6)
Veteran Status	0.128	0.092	0.273	0.086	0.237	0.127
	(0.334)	(0.289)	(0.446)	(0.281)	(0.425)	(0.333)
Observations	5341	1088	6656	827	1355206	513560
Partners						
Veteran Status	0.103	0.089	0.065	0.070	0.069	0.081
	(0.304)	(0.286)	(0.246)	(0.255)	(0.253)	(0.273)
Observations	5341	1088	6656	827	1355166	513483
Panel B: Same-Sex Female Couples					Different-Sex Married	
Housholders						
Veteran Status	0.051	0.065	0.194	0.119	0.237	0.127
	(0.221)	(0.246)	(0.395)	(0.323)	(0.425)	(0.333)
Observations	5273	1044	5112	744	1355206	513560
Partners						
Veteran Status	0.055	0.052	0.076	0.059	0.069	0.081
	(0.228)	(0.223)	(0.266)	(0.236)	(0.253)	(0.273)
Observations	5273	1044	5112	744	1355166	513483

Notes: Means with standard errors in parentheses. Observations are weighted by the appropriate Census sampling weight.

Table 4. DiNardo Fortin Lemieux Results by Householder Status

	Unverified Same-Sex Couple Sample	Re-Weighted Confirmed Same-Sex Couple	Re-Weighted Different-Sex Married Couple	Predicted Composition of Unverified Same-Sex Sample: Same-Sex Couples	Predicted Composition of Unverified Same-Sex Sample: Different-Sex Married Couples
	(1)	(2)	(3)	(4)	(5)
Panel A: Same-Sex Male Couples					
Housholders					
Veteran Status	0.273	0.245	0.257	N/A	
	(0.446)	(0.430)	(0.437)		
Observations	6651	5340	1355206		
Partners					
Veteran Status	0.065	0.208	0.072	N/A	
	(0.246)	(0.406)	(0.258)		
Observations	6641	5334	1355166		
Panel B: Same-Sex Female Couples					
Housholders					
Veteran Status	0.194	0.063	0.225	19.3%	80.7%
	(0.395)	(0.242)	(0.418)		
Observations	5110	5269	1355206		
Partners					
Veteran Status	0.076	0.071	0.067	N/A	
	(0.266)	(0.257)	(0.249)		
Observations	5098	5259	1355166		

Notes: Means with standard errors in parentheses.

Appendix Table 1. Summary Statistics for Individuals by Couple Type, Response Mode and Marital Allocation

Panel A: Same-Sex Male Couples	No Marital Status Allocation		Marital Status Allocation		Different-Sex Married Couples	
	Mail-in	CATI/CAPI	Mail-in	CATI/CAPI	Mail-in	CATI/CAPI
	(1)	(2)	(3)	(4)	(5)	(6)
Age 15-24	0.043	0.082	0.018	0.073	0.016	0.033
	(0.203)	(0.274)	(0.135)	(0.260)	(0.125)	(0.179)
Age 25-34	0.155	0.250	0.096	0.254	0.129	0.203
	(0.362)	(0.433)	(0.295)	(0.435)	(0.335)	(0.402)
Age 35-44	0.350	0.356	0.183	0.286	0.206	0.281
	(0.477)	(0.479)	(0.386)	(0.452)	(0.405)	(0.450)
Age 45-54	0.279	0.214	0.249	0.203	0.241	0.238
	(0.449)	(0.411)	(0.433)	(0.403)	(0.428)	(0.426)
Age 54-65	0.120	0.073	0.235	0.125	0.205	0.140
	(0.325)	(0.260)	(0.424)	(0.331)	(0.404)	(0.347)
Age 65-74	0.037	0.020	0.136	0.030	0.124	0.066
	(0.189)	(0.142)	(0.342)	(0.171)	(0.329)	(0.248)
Age 75-84	0.012	0.004	0.069	0.026	0.067	0.031
	(0.111)	(0.061)	(0.253)	(0.159)	(0.250)	(0.174)
Age 85-95	0.002	0.000	0.015	0.004	0.012	0.006
	(0.045)	(0.022)	(0.120)	(0.060)	(0.109)	(0.079)
White	0.831	0.690	0.824	0.485	0.840	0.627
	(0.375)	(0.462)	(0.381)	(0.500)	(0.367)	(0.484)
Black	0.038	0.067	0.056	0.089	0.043	0.108
	(0.191)	(0.250)	(0.231)	(0.285)	(0.202)	(0.310)
Hispanic	0.086	0.210	0.067	0.337	0.059	0.195
	(0.280)	(0.407)	(0.249)	(0.473)	(0.237)	(0.397)
Other Race	0.046	0.033	0.053	0.089	0.058	0.070
	(0.209)	(0.180)	(0.224)	(0.285)	(0.234)	(0.255)
Panel B: Same-Sex Female Couples					Different-Sex Married Couples	
Age 15-24	0.065	0.099	0.025	0.037	0.016	0.033
	(0.246)	(0.298)	(0.155)	(0.188)	(0.125)	(0.179)
Age 25-34	0.187	0.273	0.134	0.175	0.129	0.203
	(0.390)	(0.446)	(0.341)	(0.380)	(0.335)	(0.402)
Age 35-44	0.311	0.321	0.215	0.267	0.206	0.281
	(0.463)	(0.467)	(0.411)	(0.443)	(0.405)	(0.450)
Age 45-54	0.267	0.223	0.245	0.268	0.241	0.238
	(0.442)	(0.417)	(0.430)	(0.443)	(0.428)	(0.426)
Age 54-65	0.122	0.065	0.212	0.151	0.205	0.140
	(0.327)	(0.247)	(0.408)	(0.359)	(0.404)	(0.347)
Age 65-74	0.033	0.014	0.104	0.058	0.124	0.066
	(0.179)	(0.119)	(0.306)	(0.234)	(0.329)	(0.248)
Age 75-84	0.012	0.004	0.055	0.034	0.067	0.031
	(0.110)	(0.059)	(0.229)	(0.181)	(0.250)	(0.174)
Age 85-95	0.003	0.001	0.011	0.010	0.012	0.006
	(0.054)	(0.035)	(0.103)	(0.100)	(0.109)	(0.079)
White	0.848	0.687	0.819	0.586	0.840	0.627
	(0.359)	(0.464)	(0.385)	(0.493)	(0.367)	(0.484)
Black	0.042	0.108	0.062	0.128	0.043	0.108
	(0.201)	(0.311)	(0.241)	(0.334)	(0.202)	(0.310)
Hispanic	0.070	0.155	0.064	0.192	0.059	0.195
	(0.255)	(0.362)	(0.246)	(0.394)	(0.237)	(0.397)
Other Race	0.039	0.050	0.055	0.094	0.058	0.070
	(0.195)	(0.218)	(0.227)	(0.292)	(0.234)	(0.255)

Notes: Means with standard errors in parentheses. Observations are weighted by the appropriate Census sampling weight.