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The Residential Segregation of Same-Sex Households from Different-Sex Households in Metropolitan USA, circa-2010

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Abstract

Residential segregation is a major area of research in demography. Most prior investigations have focused on the segregation of racial/ethnic minorities from the majority white group in cities and metropolitan areas of the United States and several other countries. Few analyses have dealt with the spatial segregation of sexual minorities from the majority. In this paper, we analyze the residential segregation of gay male and lesbian households from heterosexual married and heterosexual cohabiting households. We use two dissimilarity measures of residential segregation and draw on data from the American Community Surveys for 2008 through 2012 to compute segregation scores for the 100 metropolitan statistical areas (MSAs) with the largest gay male and lesbian populations around the year 2010. We show that there is a sizable amount of homosexual-heterosexual residential segregation and that it appears to be a different phenomenon from racial and ethnic residential segregation. We also show that gay male households are more segregated from different-sex partnered households than are lesbian households, and that levels of segregation vary positively across the MSAs with the size of the gay male and lesbian populations.

Keywords

Residential segregation, dissimilarity index, same-sex unmarried partners

Introduction

In recent years, increased attention has been directed to the quantitative sociological and demographic analysis of the gay male and lesbian populations[1] (Badgett 1995; Black *et al.* 2000; 2002; 2003; Gates and Ost 2004; Lewis and Seaman 2004; Walther and Poston 2004; Florida 2005; Baumle, Compton, and Poston 2009; Walther *et al.* 2011; Compton and Baumle 2012; Poston and Chang, 2013, 2015). To our knowledge, however, there have only been two published quantitative studies of the residential segregation patterns of same-sex partners from heterosexual partners (Baumle *et al.* 2009: chapter 4; Spring 2013). In this paper, we use data from the American Community Surveys for 2008 through 2012 to update and extend this very limited literature by estimating statistical models of the residential segregation of same-sex partnered households from both married and unmarried heterosexual partnered households in 100 Metropolitan Statistical Areas (MSAs) of the U.S. We calculate segregation scores for the 100 MSAs with the largest gay male and lesbian populations in around the year 2010. We then estimate a series of regression equations to model the variation in residential segregation for several different types of same-sex – different-sex residential segregation using two dissimilarity indexes: the Dissimilarity Index and the Unbiased Dissimilarity Index.

Residential segregation is an important area of research in both sociology and demography. One of the first sociological analyses of residential segregation was Park's (1925, 1926) study of the relationship between physical distance and social distance, later replicated by Duncan and Duncan (1955) and many others. Most sociological and demographic research on segregation in the U.S. has focused on the segregation of racial and ethnic minorities from each other and from the majority (Lieberson 1963; Farley 1977; Massey 1979, 2012; Massey and Denton 1985, 1987, 1988, 1989, 1993; Farley and Frey 1994; Alba *et al.* 1999; Alba and Nee 2003; among many others).

Much of the past research in racial and ethnic residential segregation is rooted in the assumption that the "spatial patterns of residential distribution reflect social distance" (Fossett and Cready 1998: 157) and social relations (Fong and Shibuya 2000). It has been suggested that the spatial distance between groups illustrates how others perceive the desirability of particular groups. Thus, a majority group might avoid spatial contact with a minority group that is perceived as undesirable. This can be seen when majority group members evade the "undesirable" group or take action to prevent the group from moving into the majority group's neighborhood (Ibid.).

Regarding black-white segregation, some literature suggests that blacks are unable to move into choice neighborhoods because of the discomfort that whites feel regarding living in the same neighborhoods with blacks (Farley and Frey 1994; Fong and Shibuya 2000; Krysan 2002; Logan and

[1] We refer to our populations drawn from the American Community Survey data as either same-sex partners or as "gay male partners" and "lesbian partners" (Baumle *et al.* 2009). This particular terminology is selected because it represents common and accepted labels in the gay male and lesbian communities, as well as in the academic literature. However, we are cognizant that for some individuals, the terms "gay male" or "lesbian" do not only capture their sexual identities. For some, "lesbian" suggests a politicized identity (Zita 1992) and for others, identity differs based on class and race distinctions. The data we use, however, do not provide information on preferred sexual identity, and we chose not to make assumptions about identity that are based on persons answering census questions about relationships with their partners. Finally, we note that many have argued against the use of the term "homosexual" as a noun, suggesting that this phrase carries negative connotations reflecting issues and dimensions of psychological abnormality (Risman and Schwartz 1988; Boswell 1980; Foucault 1978). Thus, we have minimized our use of "homosexual" or "gay" as nouns, due to this possible interpretation, and instead mainly use the words as adjectives.

Zhang 2010). In addition, the literature indicates that assimilation into the larger social structure depends on numerous factors, including group size, concentration and economic conditions (Massey 1985; Massey and Denton 1985, 1987; Fossett and Cready 1998; Charles 2003; Clark 2013; Fossett and Zhang 2011; Hall *et al.* 2015). It seems reasonable to assume that some of these findings may be relevant in analyses of the gay male and lesbian populations.

Few analyses have been conducted on the spatial segregation of non-racial/ethnic minorities from the majority. Indeed, as we noted above, there are only two systematic analyses of which we are aware that examine the extent to which same-sex partnered households are residentially segregated from heterosexual partnered households. However, there are many studies of "gay spaces" and enclaves (Weightman 1981; Castells and Murphy 1982; Lauria and Knopp 1985; Knopp 1990; Valentine 1993; Gates and Ost 2004, Compton and Baumle 2012, Ghaziani 2015), and there has been increased attention to issues of gentrification and how to sustain LGBT neighborhoods within the planning and geography literatures (see Doan and Higgins 2011; Smith and Butler 2007). Most of this work, however, tends to be case studies of single locales – usually cities or specific neighborhoods within cites, such as the research by Murray (1992) on the Castro district in San Francisco, and the research by Doan and Higgins (2011) on the Midtown area in Atlanta. As we show below, there is an extremely small and limited quantitative literature that deals with the degree to which households of same-sex partners are residentially segregated from households of heterosexual partners.

Background and hypotheses

Racial, ethnic and other minority populations are residentially segregated from the majority population for a host of reasons, one of which is that they are perceived to be different from the majority. Some hold that a major reason for spatial segregation between racial minority populations and the majority population is economic. Frisbie and Kasarda (1988: 640) suggest that segregation is attributable to "the inequalities that constitute the overall system of stratification … Greater affluence allows some individuals to acquire housing in more desirable areas, leaving other locales for the less wealthy." The residential segregation of minorities from the majority is lessened when the minorities become economically and culturally assimilated with the majority (Massey 1985; Massey and Denton 1987). The spatial assimilation argument views the segregation of minorities from the majority as largely involuntary.

In contrast, others theorize that residential segregation may be more voluntary than involuntary. Some ethnic neighborhoods are maintained despite the economic and cultural assimilation of their members. Alba and his associates (1997), for instance, show the persistence of certain white ethnic neighborhoods, particularly Italian neighborhoods, in the Greater New York region in the 1980s, despite the assimilation of these ethnic groups into the white majority (see also Alba and Nee 2003: chapter 3).

One could argue that the residential segregation of gay men and lesbians from heterosexual people could be both involuntary and voluntary. Mondimore (1996) notes that in the not too distant past, with the possible exception of prisoners, "homosexuals" were considered by many to be so different from "normal" people that they must be avoided. Acknowledging that "homosexuality is much less stigmatized than it was only a few years ago," Mondimore nevertheless remarks that "much stigmatization remains" (1996: 171). Indeed, until the U.S. Supreme Court ruling in 2003 overturned

the sodomy law in Texas (Lawrence v. Texas 2003), consensual homosexual sexual activity was defined by statutes in 18 states as criminal (Knopp, 1990). Also, many religions condemn homosexuality, and others condemn homosexual behavior. Thus, "homosexuality continues to be viewed as undesirable by many in our society" (Mondimore 1996: 171), suggesting that heterosexuals for the most part would be expected to avoid contact with gay men and lesbians, especially when it comes to living in the same neighborhoods with them.

Studies of racial and ethnic segregation indicate that the majority group will avoid spatial contact with minorities they perceive as undesirable. They will usually evade the "undesirables" and take action to prevent them from moving into the majority group neighborhoods (Fong and Shibuya 2000). Much of the racial segregation literature shows that blacks have been unable to move into choice residential neighborhoods because of the discomfort expressed by whites of living in the same neighborhoods with them (Farley and Frey 1994; Fong and Shibuya 2000; Krysan 2002). According to this line of reasoning, if there is residential segregation between same-sex partnered households and heterosexual partnered households, it would be involuntary.

On the other hand, the stigma of homosexuality may lead to the voluntary segregation of gay men and lesbian partners from different-sex partners. Mondimore (1996: 172-173) also observes that as individuals "become more comfortable with their homosexuality, they move to a stage where they do not merely tolerate their [sexual] identity but begin to accept this view of themselves as a valid, meaningful, and fulfilling self-identity…Where once the only 'homosexual culture' was that of the gay bar, now entire communities of gay and lesbian people … can be found in larger cities." In addition, individuals may perceive that there are lower levels of anti-gay bigotry in segregated gay neighborhoods. Thus, gay men and lesbians may opt to live in segregated communities due to issues of comfort and perceived safety.

Indeed, Murray (1992:112) argues that "contemporary gay and lesbian urban North American enclaves differ from those of ethnic immigrant [enclaves] in several ways." Whereas immigrants tend to be relatively impoverished and often speak a language other than English, gay men and lesbians are relatively well integrated socioeconomically with a native command of English. As a result, gay men and lesbians who live in these neighborhoods might well choose voluntarily to live alongside other gay men and lesbians, rather than, as is the case with new immigrants, "being restricted to [living alongside] those who speak the same minority language" (Murray 1992: 112).

One of the first quantitative examinations of the residential segregation of persons in same-sex households from those in heterosexual households was the analysis of 2000 U.S. census data by Baumle *et al.* (2009). They develop residential segregation exposure indexes to examine how levels of segregation between same-sex partners and heterosexual partners vary in the 40 U.S. cities with the largest populations of gay male and lesbian households. Among these cities, the most influential predictor of variation in homosexual-heterosexual segregation is the relative size of the gay population in the city. They also find that ecological characteristics of the cities not related to population size, including those specifically related to sexual minorities, did not seem to account for much of the variation in segregation levels across the cities, even though such characteristics have been shown to be important in accounting for race and ethnic segregation. This is very interesting in that it suggests that homosexual-heterosexual residential segregation could be a somewhat different phenomenon from racial and ethnic residential segregation.

Ghaziani's qualitative analysis, *There Goes the Gayborhood* (2014), provides support for both voluntary and involuntary features of segregation. Focusing on "gayborhood" culture, he explores how gay neighborhoods grow and how they may be changing with increasing social tolerance, assimilation and economics. He notes that although gay enclaves formed in big cities in the post-Stonewall years initially as safe havens, these days gayborhoods still provide a protective shield and social support, and in some cases, allow for a stronger political voice (Ghaziani 2014). The presence of locally owned gay-friendly institutions affect segregation and clustering around these establishments for sexual minorities – largely businesses, bars and health clinics. This then influences growth, further development and change in the gayborhoods. In some cases, sexual minorities may now be pushed out of these neighborhoods, or neighborhoods may be unavailable because of increases in costs of living and a rise in the value of housing stock, which are positively correlated with the presence of established gay enclaves.

A second quantitative analysis of segregation of same-sex partners from different-sex partners is Spring's (2013) research using 2000 and 2010 data for the 100 most populous places in the U.S. While there may be some concern related to data quality because the 2000 and 2010 census data on same-sex partnering are not fully comparable, Spring finds that segregation, as measured with the index of dissimilarity, decreases across places and that the majority of same-sex partners live in environments that have declined in residential segregation. She further notes that the decline is greater in places where there were more graduate degree holders and among female households with children, suggesting an economic aspect to segregation and segregation decline (Spring 2013). We note that the increasing levels of social tolerance between 2000 and 2010 might also have been at play.

A body of literature from urban studies, planning and geography has also focused on community identities or economic aspects of neighborhood – typically framed around gentrification. The majority of the work focuses on the sociocultural dimensions of LGBT enclaves as safe spaces and the impact of LGBT people on urban geographies and life (Castells 1983; Knopp 2004; Doan and Higgins 2011). Some of this sociocultural research work asserts that most well-known and studied neighborhoods develop largely from gay men and (some) lesbians fleeing discrimination and seeking safe spaces and community (Bell and Vallentine 1995; Lees *et al.* 2008). Economically, this work largely describes some of the factors associated with same-sex households. It demonstrates the impact of the gendered wage gap between gay men and lesbian women, and overwhelmingly focused on gentrification (Doan and Higgins 2011; Anacker and Morrow-Jones 2015).

In a quantitative analysis drawing on the 2000 census data at the tract level in the top 50 populated counties by male same-sex households and the top 50 populated by female same-sex households, Anacker and Morrow-Jones (2015) discover certain neighborhood factors that are associated with the number of same-sex households and examine gender differences. For example, neighborhoods where there are higher numbers of same-sex households contain fewer children and elders, more non-Hispanic whites and more graduate or higher degrees. There is a gender difference in the income level of the neighborhood factor: gay men are more likely to live in higher-income tracts, but lesbian women are more likely to live in lower-income tracts. Regarding housing, same-sex couples are more likely to reside in areas with an older building stock and with higher housing values. Regarding metropolitan-wide variables that seek to set the context of the neighborhoods, Anacker and Morrow-Jones also find that metropolitan areas with a higher cost of living have a greater concentration of same-sex households. Metropolitan areas also contain higher levels of educational attainment and

therefore a more liberal population, which might explain that education variable is not significant in predicting the concentration of female same-sex households but it is significant for male same-sex households. Climate and arts indexes at the metropolitan level also have significance. Anacker and Morrow-Jones assess whether the gay and lesbian population sizes can be used as a bellwether or proxy for locations that could be attractable to knowledge workers in which they find support. More applicable to our work, they provide support that same-sex households do cluster together, and that these clusters are affected by metropolitan-wide characteristics (Anacker and Morrow-Jones 2015).

Whether involuntary or voluntary, there is good reason for expecting gay men and lesbians to be residentially segregated from heterosexual men and women. But, as already noted, to date there has been very little quantitative research conducted on this topic. One reason for the neglect is the lack of available data on the residential distributions of gay men and lesbians. There have been a "few sizable surveys completed on the homosexual population, but many have been convenience samples" (Black et al. 2000: 139). It was not until the 1990 census that spatial data for the gay male and lesbian households became available.

How might locales be expected to vary in their levels of homosexual-heterosexual residential segregation? The racial and ethnic residential segregation literature suggests that the size of the minority group should be associated with the level of segregation. We propose that the larger the minority group in an area, the less it is segregated from the majority. We assume that with an increasing presence of same-sex couples in an MSA, majority heterosexual populations will be less likely to segregate themselves residentially from same-sex populations. This owes, in part, to one of the popular explanations proffered these days for the rapid changes in societal attitudes toward gay males and lesbians and same-sex marriage. The explanation holds that the more gay male and lesbian friends or acquaintances a straight person has, the more accepting he or she is of them.

There are other ecological factors that may help to explain why segregation levels might vary from area to area. Some apply to all persons, such as the overall general quality of life, whereas other factors, such as a city or community's social, political and religious attitudes, apply specifically to gay men and lesbians. Drawing on the above literature, we hypothesize that MSAs with higher rates of poverty will also have higher levels of segregation compared to MSAs with lower rates of poverty. This owes, in part, to the fact that poorer MSAs will tend to not be as well off as other MSAs and may not be as accepting of minorities, be they racial or sexual. Thus, the majority populations will not want to intermingle and co-reside with minority populations, resulting in higher levels of segregation.

We also propose that the physical climate could have a positive effect on the levels of residential segregation. The more pleasant the physical climate, the less the levels of residential segregation. The rationale for this effect is similar to that for poverty. That is, MSAs with greater extremes in the physical climate will tend to be less attractive as residential locations compared to MSAs with more agreeable climates, and the residents may not be as accepting of minorities, be they racial or sexual.

Another consideration is population size. The size of the metropolitan area's total population should also be associated in a positive way with the levels of gay male and lesbian concentration. Abrahamson (2002) notes that there are higher levels of gay male and lesbian prevalence in metropolitan areas with larger populations. The development of gay male and lesbian spaces requires a large community size. This is due to the ecological notion that the larger the size of the general

population, the greater the likelihood for the population to be more differentiated and diverse (Hawley 1950), not only with regard to sexuality. Indeed, the notion of the optimum population relies in part on the fact that large populations are required for the maintenance of a creative and diverse population (McNicoll 2003). Hence, the larger the MSA population, the greater the gay male and lesbian prevalence, and therefore, the lower the levels of residential segregation between same-sex households and different-sex households.

Another factor worthy of consideration is the amount of residential segregation in the MSA between white and black households. We expect that the levels of residential segregation of gay male and lesbian households from different-sex households should be associated positively with the levels of residential segregation of white households from black households. If the social and political climate of an area leads to white-black racial residential segregation, the same should be the case for homosexual-heterosexual segregation (Florida 2005 Black *et al*. 2002). Majority populations less accepting of minorities, be they racial or sexual, will tend to segregate themselves accordingly. Hence levels of racial segregation should be positively associated with levels of sexual segregation.

Regarding factors that specifically apply to the gay males and lesbians, we hypothesize that there will be greater segregation in MSAs with a political climate that is more conservative than progressive (Ghaziani 2014). MSAs with large proportions of Republican voters and large proportions of Southern Baptists are more likely to have an anti-gay climate, leading to more segregation between household types, than MSAs with lower proportions. For instance, there is evidence that, rightly or wrongly, the Republican Party is often associated with an anti-gay orientation and anti-gay policies (O'Reilly and Webster 1998).

Also, MSAs located in states with sodomy laws in the recent past should be characterized by a more conservative climate than MSAs in states without such laws, thus resulting in greater amounts of homosexual-heterosexual segregation.

Therefore, we hypothesize that greater segregation of same-sex households to heterosexual households should occur in MSAs with relatively more Republicans and Southern Baptists, and in those with the presence of anti-gay sodomy laws.

In our analyses below of the segregation of partnered gay male households from partnered heterosexual households and the segregation of partnered lesbian households from partnered heterosexual households, should we expect one of these same-sex groups to be more segregated from heterosexual partners than the other? There is good reason to anticipate that lesbian households should be less segregated from heterosexual households than should gay male households. Lesbian households are more likely to contain children than gay households (Bellafante 2004). Lesbian families might thus be expected to place more of a premium on such amenities as schools, safe streets and neighborhoods, and low-density environments than would gay male families. Lesbian families should be seeking many of the same residential amenities as heterosexual families with children, and would hence be more inclined than gay males to seek housing in heterosexual neighborhoods. Moreover, there is also an economic aspect. On average, lesbian partners report lower earnings than gay male partners (Smith and Gates 2001; Klawitter and Flatt 1998). This may give them less of a choice regarding residential location. We thus expect that the levels of segregation of same-sex female partners from heterosexual partners will be lower than the corresponding levels of segregation

of same-sex male partners from heterosexual partners. We turn next to a discussion of the data and segregation measures.

Data and measures

Residential segregation

There are many ways to conceptualize and measure residential segregation (Massey and Denton 1988; Massey 2012). In this paper, we use two variations of the most common measure of segregation, namely, the index of dissimilarity (D). It measures the degree of unevenness in the patterns of residential distribution of the same-sex households and the different-sex households across the census tracts of an MSA. The conventional D index is by far the most popular and regularly used index of residential segregation in the sociological and demographic literature. The D index has a theoretical range from 0, indicating perfectly even residential distributions of two groups, to 1.0, indicating completely uneven residential distributions of two groups. In this application, when multiplied by 100, its value reflects the percentage of same-sex partnered households who would have to move their residences to certain other census tracts in the MSA for their percentage residential distribution across the census tracts to be the same as, i.e., perfectly even with, the percentage of different-sex partnered households. The higher the value of the dissimilarity index, the more uneven the same-sex partner's residential distribution from that of the different-sex partners, and, therefore, the greater its degree of residential segregation.

The conventional dissimilarity index (D) for an MSA is defined as follows:

$$D = (\frac{1}{2}\sum_{i}^{n} | (HOM_i / HOM) - (HET_i / HET) |) * 100$$

where HOM_i is the number of male-male households (or female-female households) living in the i^{th} census tract of an MSA, and HET_i is the number of male-female households living in the i^{th} census tract of the MSA; HOM and HET are, respectively, the total numbers of male-male households (or female-female households) and male-female households in the MSA. One-half of the absolute differences between HOM_i/HOM and HET_i/HET summed over all the census tracts of the MSA, multiplied by 100, yields a percentage score.

However, Fossett and Zhang (2011), among others, have noted that the conventional D index is subject to bias because its expected value of no segregation under random distribution need not necessarily to be zero. In other words, the zero value of the dissimilarity index, which is the value of D indicating the absence of segregation in the MSA, will not always occur under a random distribution. The conventional dissimilarity index may thus not be capable of distinguishing between random allocation and systematic group segregation. Moreover, the level of bias could be large and non-negligible in some circumstances, particularly when the size of one of the comparison groups in the areal units of the MSA is decidedly smaller than the other group. Hence, we will also calculate unbiased segregation indexes for all the comparisons. The unbiased index, D', of Fossett and Zhang is defined as follows:

$$D' = \frac{\sum x_i * \lambda_{xi}'}{X+Y} - \frac{\sum y_i * \lambda_{yi}'}{X+Y}$$

where:

$\lambda_{xi}' = 1, if\ p_{xi}' \geq P;$
$\lambda_{xi}' = 0, if\ p_{xi}' < P;$
$\lambda_{yi}' = 1, if\ p_{yi}' \geq P;$
$\lambda_{yi}' = 0, if\ p_{yi}' < P;$
$p_{xi}' = \frac{x_i - 1}{x_i + y_i - 1}$, which is the probability of an individual of Group X to meet with other individuals also belong to Group X in tract i; $p_{yi}' = \frac{x_i - 0}{x_i + y_i - 1}$, which is the probability of an individual of Group Y to meet with other individuals belong to Group X in tract i; and $P = \frac{X}{X+Y}$.

In the above calculations, respectively X and Y are the total numbers of male-male households (or female-female households) and male-female households in the MSA; similar, x_i and y_i are the total numbers of male-male households (or female-female households) and male-female households in tract *i*.

We have calculated five conventional dissimilarity indexes (D) for each MSA, and five unbiased dissimilarity indexes (D') for each MSA. The two sets of five each dissimilarity indexes are the following:

1. a D index and a D' index comparing the residential distribution of partnered male-male households with that of partnered male-female married households (known as "M-M vs. M-F married" later on);
2. a D index and a D' index comparing the residential distribution of partnered male-male households with that of partnered male-female cohabiting households (known as "M-M vs. M-F cohabiting" later on);
3. a D index and a D' index comparing the residential distribution of partnered female-female households with that of partnered male-female married households (known as "F-F vs. M-F married" later on);
4. a D index and a D' index comparing the residential distribution of partnered female-female households with that of partnered male-female cohabiting households (known as "F-F vs. M-F cohabiting" later on); and
5. a D index and a D' index comparing the residential distribution of partnered male-male households with that of partnered female-female households (known as "M-M vs. F-F" later on).

The data we use for the segregation indexes are counts of the numbers of same-sex unmarried and married partners, and counts of heterosexual married and cohabiting partners, in the census tracts of each of 100 MSAs. The 100 MSAs are the 99 with the largest numbers of same-sex partners in 2010, plus our campus hometown MSA, College Station-Bryan, Texas.

The data are taken from the American Community Surveys for 2008 through 2012. These surveys contain a question pertaining to the standard "relationship to the householder," i.e., the person in the household designated as person #1. Typically, person #1 is the person in the household who fills out the census questionnaire for himself/herself, and frequently for all the members of the household. Every person in the household, except for person #1, thus responds to the question about his/her

relationship to person #1. We examine person #1 in each household of every census tract. If another person of age 18 or over in the household is of the same sex as person #1 and identifies him/herself as the unmarried partner or the spouse of person #1, we then identify that household as a partnered same-sex household. Because the "unmarried partner" response is meant to reflect a "marriage-like" relationship between the two persons, researchers make the reasonable and defensible assumption that data on same-sex households (male-male or female-female) represent households inhabited mainly by married or partnered same-sex persons (Gates and Ost 2004; Walther and Poston 2004; Simmons and O'Connell 2003; Black *et al.* 2000, 2002; Baumle *et al.* 2009; Walther *et al*. 2011). We make similar calculations for each household with respect to partnered heterosexual households where the males and females are either married or are cohabiting.

Independent variables and hypotheses

We now discuss the various independent variables that are hypothesized to be related to the level of homosexual-heterosexual segregation. We discuss each variable and its data separately.

Size of the gay male and lesbian population: data on same-sex households from the 2010 Census are used to develop prevalence scores for the MSAs regarding the relative size of the gay and lesbian populations. We measure prevalence with an index developed and first used by Gates and Ost (2004) and Walther and Poston (2004), and later extended by Poston and Chang (2013). It is a "ratio of the proportion of same-sex couples living in a [metropolitan area] to the proportion of households that are located in a [metropolitan area]… This ratio … measures the over- or underrepresentation of same-sex couples in a geographic area relative to the population" (Gates and Ost 2004: 24). An index value of 1.0 for a metropolitan area indicates that "a same-sex couple is just as likely as a randomly picked household to locate" in the metro area (Gates and Ost, 2004: 24). An index value above 1.0 means that a same-sex couple is more likely to live in the metro area than a random household, and a value less than 1.0, less likely. We hypothesize that among the MSAs, the higher the relative size of the gay male population or the lesbian population in the MSA, the lower the levels of segregation between same-sex households and different-sex households.

Poverty**:** For each MSA we use data from the 2010 American Community Survey to develop a poverty rate, defined as the percentage of the population of the MSA living in poverty. As noted earlier, we hypothesize that among the MSAs, the higher the value of the poverty index, the higher the levels of segregation between same-sex households and different-sex households.

Climate: A characteristic of the physical environment, namely, climate, is a factor that in many ways reflects the attractiveness of the area. January and July temperature data for each MSA based on average daily temperatures for these two months for the years from 1951 to 1970 are used to generate a temperature index by dividing the average July temperature into the average January temperature. We assume that persons prefer to avoid exposure to bitter and cold winters and to excessively hot and humid summers. Thus, the higher the value of this index, the more favorable the climate. This is because the index value is lowered if it is cold in the winter or hot in the summer (Karp and Kelly 1971; Poston *et al.* 2009). We hypothesize that among the MSAs, the higher the value of the temperature index, the lower the levels of segregation between same-sex households and different-sex households.

One might ask whether climate data for the MSAs for the years 1951 to 1970 should be used to gauge climate four decades later, the time frame for our analysis. In an earlier analysis of the effects of physical climate on migration (Poston *et al.* 2009), it showed that even though the average level of climate for some geographical areas may change by a fraction of a degree from one decade to the next, the variation in physical climate across the geographical areas hardly changes, if indeed it changes at all. And since it is the variation in an independent variable that is important in multiple regression, climate data for 1951 to 1970 are considered to be valid for gauging the climate even four decades later.

Residential segregation: white-black: We use data on the residential segregation of white households from black households from all 100 MSAs in our analysis (Logan and Stults, 2011). The segregation index employed is the standard index of dissimilarity (see above). As already noted, we expect to find across the MSAs that levels of racial segregation will be positively associated with levels of sexual segregation.

Population size: We obtain data from the 2010 census on the size of the population of each MSA. We expect that the larger the population, the less its level of same-sex versus different-sex residential segregation.

Religious and political conservatism: We gather data for each MSA on the percentage of votes cast in the 2008 presidential election for the Republican candidate, John McCain and data for each MSA on the percentage of the MSA population holding membership in 2010 in the Southern Baptist Convention. Z-scores for each of these two measures for each MSA are then computed and summarized to produce an index of religious-political conservatism. The higher the value of the index in an MSA, the higher its level of religious-political conservatism. We hypothesize that among the MSAs, the higher the value of the religious-political conservatism index, the higher the levels of segregation between same-sex households and different-sex households.

Sodomy and discrimination: Two indicator (i.e., dummy) variables are generated in order to measure for each MSA the presence of sodomy laws: sodomy-1 is scored 1 if the MSA is in a state that in 2010 had a sodomy law directed against both homosexuality and heterosexuality, and 0 if not; sodomy-2 is scored 1 if the MSA is in a state that in 2010 had a sodomy law directed only against homosexuality, and 0 if not. We also construct two indicator variables measuring the lack of laws in the area prohibiting discrimination based on sexual orientation. Discrimination-1 is scored 1 if the MSA is in a state that in 2010 did not have laws prohibiting discrimination in the private and public sectors, and 0 if the state did have such laws; discrimination-2 is scored 1 if the MSA is in a state that in 2010 did not have laws prohibiting discrimination in the public sector, and 0 if the state had such laws. We then create an index labeled "sodomy and discrimination," by summing for each MSA its values of the four indicator variables (sodomoy-1, sodomy-2, discrimination-1, and discrimination-2). The higher the value of the sodomy and discrimination index, the greater the presence in the MSA of sodomy laws and the lack of gay-lesbian discrimination laws. We hypothesize that among the MSAs, the higher the value of the sodomy and discrimination index, the higher the levels of segregation between same-sex households and different-sex households.

Finally, we examined diagnostics statistics for the above independent variables. Several had skewness scores considerably above the rule-of-thumb value of concern of +/- 0.8 (Lewis-Beck 1995: 16). Also, after estimating the models, a few of the MSAs were outliers having undue significance

on the models. For instance, the San Francisco and Springfield MSAs had Cook's D influence values on several of the models of greater than 1.0, values which are considerably above the recommended cutoff point of 4/N = 4/100 = 0.25 (Treiman 2009: 231). Hence, we transformed with natural logarithms the independent variables of gay male prevalence, lesbian prevalence, temperature, and population size. These transformations resulted in substantial reductions in the degree to which any of the estimated models were unduly influenced by extremely high values for any of the MSAs on any of the independent variables.

One final issue concerns an important point raised by a reviewer of our article. The reviewer was concerned that our model might be misspecified because we failed to take into account the effect of gentrification on the residential segregation of same-sex households from heterosexual households. The reviewer recommended we consider adding another independent variable to our regression equations, namely, average housing values. This variable would serve as a proxy for the variation across the MSAs in the prevalence of gentrification. We added a new independent variable, median monthly rental housing costs in the MSA, in our analyses. In all our equations, this variable ended up not being statistically significant at $p = <0.05$. This could have been due to the collinearity of the housing variable with others already in the equations, especially the poverty variable. In any event, we opted against including the housing value variable in our final equations.

Descriptive results

Regarding the dependent variable of residential segregation, recall from our earlier discussion that we calculated two dissimilarity indexes for each of five types of segregation, the conventional index (D) and an unbiased index (D'). Table 1 reports the mean scores for the conventional index and for the unbiased index for each of the five different segregation indexes. One can see that they are very similar.

Table 1. Mean Segregation Index Scores (Conventional Dissimilarity (D) Index versus the Unbiased Dissimilarity (D') Index) and Correlation Coefficients, Five Segregation Indexes, 100 Metropolitan Statistical Areas, circa-2010

Segregation Index	Mean Conventional-D	Mean Unbiased-D'	Correlation Coefficient
M-M vs. M-F married	0.752	0.742	0.99
M-M vs. M-F cohabiting	0.748	0.736	0.992
F-F vs. M-F married	0.694	0.679	0.987
F-F vs. M-F cohabiting	0.697	0.681	0.987
M-M vs. F-F	0.785	0.767	0.972

The last column of Table 1 presents the zero-order correlation coefficients between the conventional and unbiased scores across the 100 MSAs. The correlations range from 0.97 to 0.99. We conclude that the variation is basically the same for the conventional D scores and the unbiased D' scores. Hence, for the remainder of this paper, we restrict our analysis of the segregation indexes to the conventional D indexes. The conventional D segregation scores for the five different types of residential segregation for all 100 MSAs are shown in the Appendix to the present document.

We next inquire about the levels of residential segregation between same-sex households and different-sex households. Are they high or low? Scholars of residential segregation frequently use a benchmark value of 0.30 as the threshold for a meaningful level of residential segregation (Alba and Nee 2003: 87). The data shown in Table 2 and in Table 1 indicate that the segregation scores across the MSAs between same-sex households and different-sex households are, on average, quite a bit above the threshold level.

Table 2. Means, Standard Deviations, and Minimum and Maximum Scores: Dissimilarity Indexes of Homosexual- Heterosexual Residential Segregation, 100 Metropolitan Statistical Areas, circa 2010

Variable Indexes of Dissimilarity (Conventional)	Mean	Std. Dev.	Minimum	Maximum
M-M vs. M-F married	0.752	0.059	0.619 (Orlando, FL)	0.917 (Provo-Orem, UT)
M-M vs. M-F cohabiting	0.748	0.069	0.608 (Portland, OR)	0.94 (Provo-Orem, UT)
F-F vs. M-F married	0.694	0.06	0.512 (Madison, WI)	0.832 (McAllen, TX)
F-F vs. M-F cohabiting	0.697	0.065	0.517 (Madison, WI)	0.842 (McAllen, TX)
M-M vs. F-F	0.785	0.069	0.604 (Portland, OR)	0.976 (El Paso, TX)

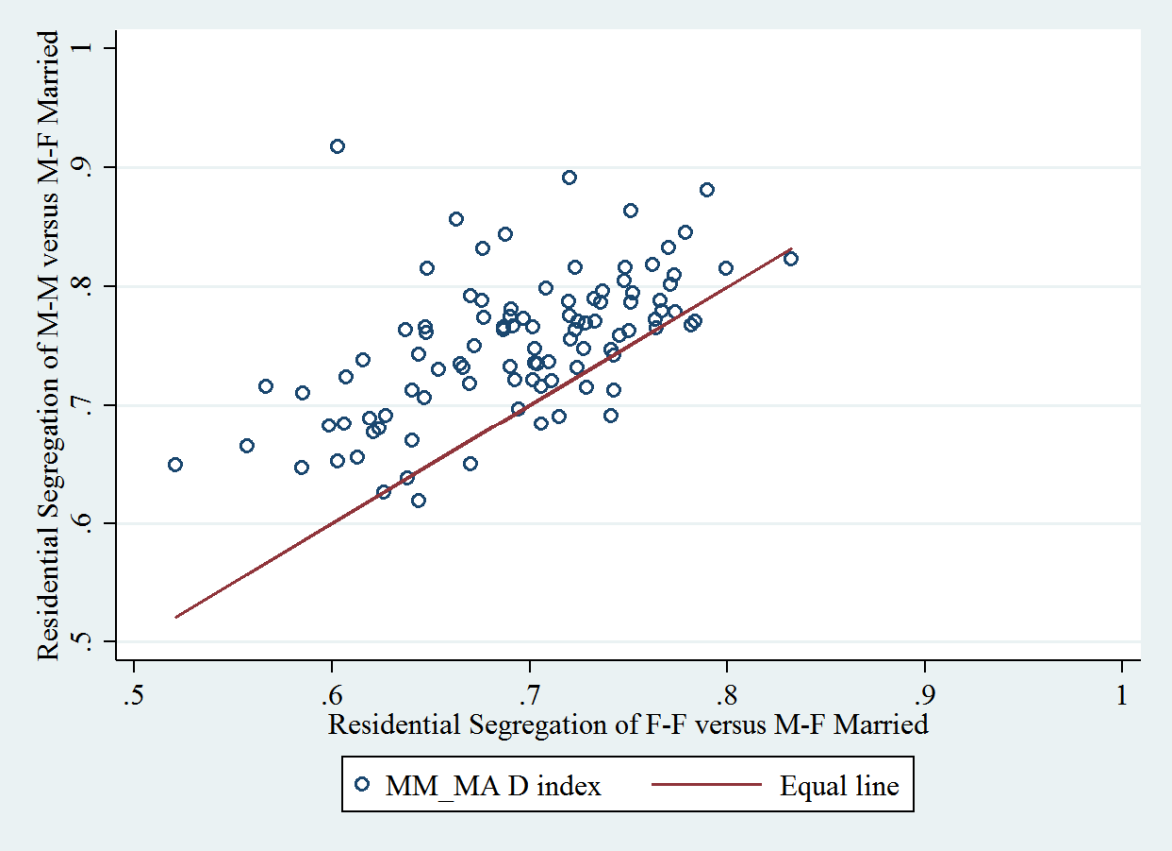
Looking first at the amount of segregation between male-male (M-M) partnered households and male-female (M-F married) households (the first row of data in Table 2), the average value across the 100 MSAs is .75; this means that 75 percent of the M-M households would need to relocate to certain other census tracks in the average MSA for their percentage distribution across the MSA to be the same as that for the M-F married households. The lowest index score is .62 in Orlando and the highest is .92 in Provo-Orem, Utah. The average segregation score between M-M households and M-F cohabiting households is also about .75. The M-M households seem on average to be almost equally segregated from M-F cohabiting households as they are from male-female married households.

Considering next the female-female (F-F) households, we see that they are slightly less segregated from heterosexual households than are male-male households. F-F households have mean segregation scores across the MSAs of .69 and .70 when compared to, respectively, M-F married households and M-F cohabiting households. They range from a low of .52 (Madison, WI) to a high of .83 (McAllen, TX) for the segregation of F-F households from M-F married households, and from a low of .52 (Madison) to a high of .84 (McAllen) for the residential segregation of F-F households from M-F cohabiting households.

Figure 1 (next page) is a scatterplot of the M-M versus M-F married segregation scores for the 100 MSAs on the Y axis compared with the F-F versus M-F married segregation scores on the X axis. The diagonal line in the figure is not a regression line, but, rather, a line representing equal

segregation scores for the two comparisons. If an MSA is above the diagonal line, its M-M versus M-F married segregation score is higher than its F-F versus M-F married segregation score. Look at the observation in the upper-left part of the figure, with a M-M score of over .90 and a F-F score of about .60. This is the MSA of Provo-Orem, Utah with two segregation scores quite a bit different from one another.

Figure 1. Scatterplot of M-M and F-F versus M-F married



Overall, in just eleven of the 100 MSAs are the levels of residential segregation of same-sex households from married different-sex households greater for partnered lesbians than for partnered gay males. Most of the MSAs in Figure 1 are located above the diagonal line indicating that there is higher segregation from married different-sex partners for gay males than for lesbians.

Figure 2 (next page) is a similar scatterplot, but this one compares the segregation scores for partnered same-sex households versus M-F cohabiting households. Only in twenty of the 100 MSAs the segregation scores of same-sex households from cohabiting different-sex households are greater for lesbian households than for gay male households. In the remaining eighty MSAs, the scores are greater for the gay men than for lesbians.

T-test was conducted to test the differences in means. The results of T-test indicate that the above differences are statistically significant. The M-M versus M-F married mean segregation score is .752 and that for F-F versus M-F married is .694; the calculated t-test score for paired means is $t = 10.4$, $p = .000$. Similarly, the M-M versus M-F cohabiting mean segregation index score is .748 and that

for F-F versus M-F cohabiting is .697; its calculated t-test score is t = 8.27, p = .000. These tests provide support for our first hypothesis that the levels of segregation of same-sex households from different-sex households are significantly greater for partnered gay males than for partnered lesbians. In other words, partnered lesbians are less residentially segregated from married or cohabiting different-sex partners than are partnered gay men, and these differences are statistically significant.

Figure 2. Scatterplot of M-M and F-F versus M-F cohabiting

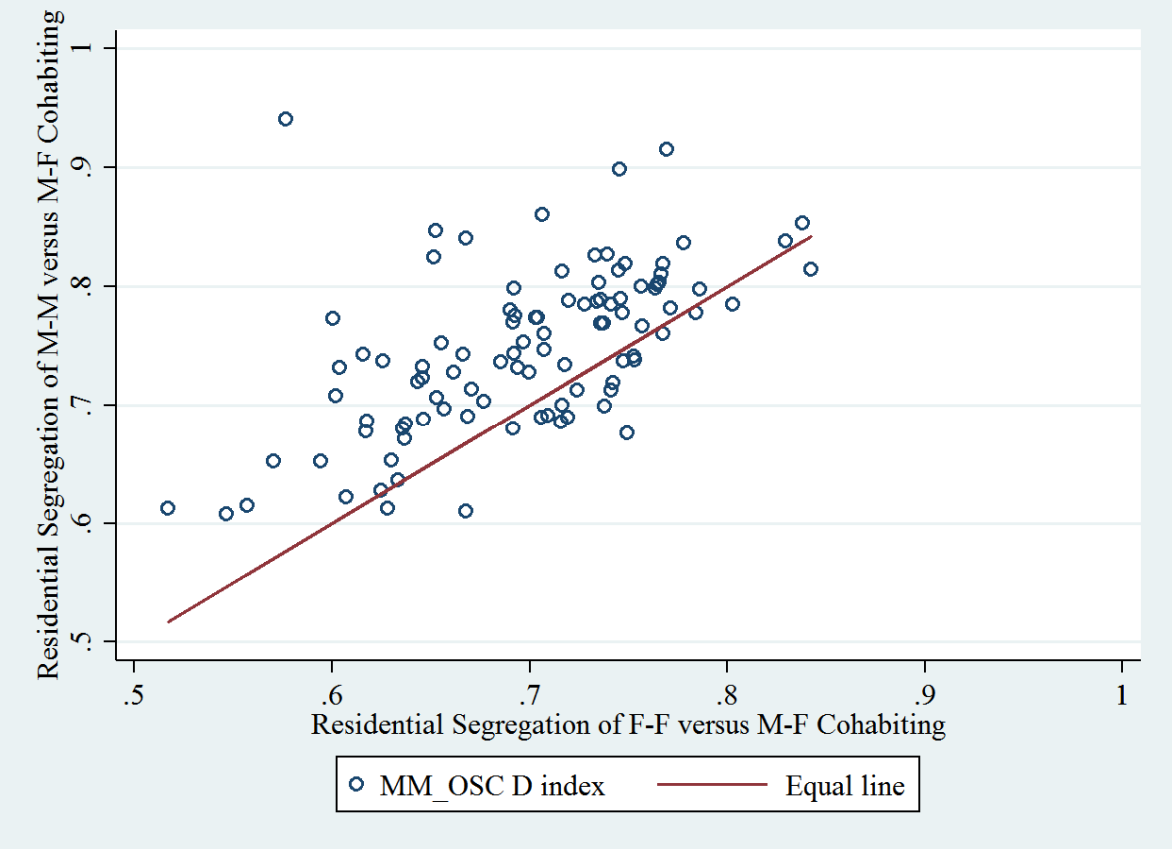


Table 3 (next page) presents descriptive data for the gay male and lesbian prevalence indexes and the other independent variables. The average gay male prevalence score across the 100 MSAs is 0.89, meaning that on average gay male partners are 11 percent less likely to settle in the average MSA than would a couple from a randomly selected metropolitan household (that is, [0.89 - 1.0] x 100 = 11%). Conversely a lesbian couple would be 2 percent less likely to settle in the average MSA than a couple from a randomly selected household.

Table 3 also shows that the San Francisco-Oakland-Fremont, CA metropolitan area (hereafter referred to as San Francisco) has the highest gay male prevalence index value, 2.78, and the Springfield, MA metropolitan area has the highest lesbian couple index ratio, 2.34. The value for San Francisco may be interpreted as indicating that a gay male couple is 2.8 times more likely than an "average" U.S. metro household to reside in the San Francisco area, or, in other words, 178 percent more likely (that is, [2.78 – 1.00] x 100 = 178%). The Springfield index value for partnered lesbians reflects the fact that a lesbian couple is 2.3 times more likely to live in Springfield than an average U.S. metro household is likely to live in Springfield.

Regarding the lowest ratios (Table 3), the Provo-Orem, Utah metro area has the lowest gay male couple prevalence score, 0.30, and it also has the lowest lesbian couple score, 0.33. Gay male couples are about 70 percent less likely to live in Provo-Orem as a randomly picked U.S. metro household, and lesbian couples are about 67 percent less likely to live in Provo-Orem compared to a randomly selected household.

Table 3. Descriptive Statistics, Independent Variables, 100 Metropolitan Statistical Areas, circa-2010

Independent Variable	Mean	Std. Dev.	Minimum	Maximum
Partnered Gay Male Prevalence	0.89	0.35	0.30 (Provo-Orem, UT)	2.78 (San Francisco, CA)
Partnered Lesbian Prevalence	0.98	0.31	0.33 (Provo-Orem, UT)	2.34 (Springfield, MA)
Poverty Rate	14.64	5.08	8.40 (Madison, WI)	41.10 (McAllen, TX)
Temperature Index	0.32	0.14	0.03 (Minneapolis- St. Paul, MN)	0.71 (Honolulu, HI)
Conservatism Index	-0.18	1.49	-3.24 (New York, NY)	3.36 (Knoxville, TN)
Sodomy and Discrimination Index	0.96	0.71	0 (27 MSAs tied)	2 (23 MSAs tied)
White-Black Segregation	53.1	12.2	18.30 (Provo-Orem, UT)	79.60 (Milwaukee, WI)
Population Size	1962450	2596480	228,660 (College Station, TX)	19,834,753 (New York, NY)

The poverty variable has an average value across the 100 MSAs of 14.6 percent, with the lowest value of 8.4% in Madison and the highest in McAllen, TX of 41.1%. The temperature index has an average score of 0.32, with the highest and most preferred climate in Honolulu and the lowest and least preferred in Minneapolis – St. Paul.

The conservatism index has an average value across the 100 MSAs of -0.18. Recall that this index is the sum of the z-scores for each MSA of the percentage of votes cast in the 2008 presidential election for the Republican candidate, John McCain, and the percentage of the MSA population holding membership in the Southern Baptist Convention in 2010. The lower the value, the less conservative politically and religiously is the MSA. The lowest conservatism score is -3.2 in the New York MSA, and the highest is 3.4 in Knoxville, Tennessee.

The sodomy and discrimination index is the sum of four dummy variables reflecting the presence of sodomy laws and gay-lesbian discrimination for each MSA. The descriptive data show that the average sodomy and discrimination index score across the 100 MSAs is 0.96. Twenty-seven MSAs are tied with the lowest score of 0, and twenty-three are tied with the highest score of 2.

The white-black segregation index has an average score across the 100 MSAs of 53.1. The MSA with the highest index score is Milwaukee, WI at 79.6, and Provo-Orem has the lowest score at 18.3. The largest MSA in population size in our analysis is New York, NY and the smallest is College Station, TX.

Multiple regression results

Five OLS multiple regression equations were estimated in order to model the variation in homosexual-heterosexual segregation among the 100 MSAs in the U.S. in 2010. The dependent variables for the five equations are the five conventional D indexes of segregation we have been discussing throughout this paper, namely, 1) a D index comparing the residential distribution of partnered male-male households with that of partnered male-female married households; 2) a D index comparing the residential distribution of partnered male-male households with that of partnered male-female cohabiting households; 3) a D index comparing the residential distribution of partnered female-female households with that of partnered male-female married households; 4) a D index comparing the residential distribution of partnered female-female households with that of partnered male-female cohabiting households; and 5) a D index comparing the residential distribution of partnered male-male households with that of partnered female-female households.

The first independent variable is the same-sex prevalence rate for the MSA. We used the gay male prevalence rate for the two equations predicting same-sex male segregation, the lesbian prevalence rate for the two equations predicting same-sex female segregation, and the gay male prevalence rate in the fifth equation predicting segregation across the MSAs of same-sex male households from same-sex female households. The other independent variables are the poverty rate, the temperature index, the conservatism index, the sodomy and discrimination index, the white-black residential segregation index, and population size. As already noted, we transformed the gay male and lesbian prevalence indexes, the temperature index, and population size with their natural logs.

Table 4 (next page) presents the multiple regression equation results. We have entered positive or negative signs after the name of each independent variable in Table 4 to indicate the direction of the variable's hypothesized relationship with each of the five same-sex segregation indexes.[2]

The results of the multiple regression equation predicting variation across the MSAs in the levels of segregation between partnered male-male (M-M) households and married male-female (M-F) households are shown in the first column of Table 4. Four of the seven regression coefficients in the equation are statistically significant and signed as hypothesized; namely, the gay male prevalence rate, the poverty rate, the conservatism index and the sodomy and discrimination index. The higher the gay male prevalence score, the lower the segregation between M-M households and M-F married households. In other words, the more gay men there are in the MSA, the less the level of residential segregation between different-sex married couples and same-sex male couples. Also, the more conservative the MSA and the higher the poverty level in the MSA, the more segregation between M-M households and M-F married households. The temperature index and the white-black segregation index have no statistically significant effects on levels of residential segregation.

[2] The statistical tolerances of the five independent variables are all very acceptable, ranging from .49 (the gay male prevalence index) to .89 (the sodomy and discrimination index). The mean tolerance of the independent variables is .76 in the equations using the lesbian prevalence index, and is .65 in the equations using the gay male prevalence index.

Population size has a significant effect, but it is signed in a positive direction, not in the hypothesized negative direction. The independent variables perform reasonably well in accounting for variation in the degree of residential segregation of same-sex males from married different-sex partners. The R^2 (adjusted) is 0.64.

Table 4. Multiple Regression Equations Predicting Same-Sex vs. Different-Sex Indexes of Residential Segregation: 100 Metropolitan Statistical Areas of the U.S., circa, 2010

Regression Coefficient	M-M vs. M-F married	M-M vs. M-F cohabiting	F-F vs. M-F married	F-F vs. M-F cohabiting	M-M vs. F-F cohabit
Gay Male Prevalence (log) (-)	-0.135***	-0.163***			-0.117***
Lesbian Prevalence (log) (-)			-0.094***	-0.094***	
Poverty Rate (+)	0.003***	0.003**	0.004***	0.005***	0.003***
Temperature Index (log) (+)	-0.001	0.008	0.012	0.010	0.011
Conservatism Index (+)	0.010**	0.011**	.0006+	0.004	0.006
Sodomy and Discrimination Index (+)	0.010+	0.012*	0.000	0.003	0.008
White-Black Segregation (+)	-0.001	0.001	0.001*	0.001**	-0.001
Population Size (log) (-)	0.021**	0.021*	0.007	0.001	0.005
Constant	0.409***	.0795***	0.495***	0.542***	0.653***
R^2 (adj)	0.644***	0.655***	0.479***	0.476***	0.438***

***p<.000, ** p<.01, * p<.05, + p<.05 (one tail)

Turning next to the equation predicting the residential segregation of same-sex male households from cohabiting heterosexual households (column 2 of Table 4), the results are the same as in the previous equation. The gay male prevalence rate, the poverty rate, the conservatism index, and the sodomy and discrimination index are all statistically significant and signed as hypothesized. Population size is significant, but signed in the positive direction, not as we had hypothesized. The other two variables have no statistically significant effects on the outcome. And the amount of the variance in the dependent variable explained by the model is also about the same as in the first equation, R^2 (adjusted) = 0.66.

The next two equations (columns 3 and 4 of Table 4) model the variation in residential segregation between partnered lesbians and married different-sex partners (column 3) and between partnered lesbians and cohabiting different-sex partners (column 4). In column 3, the effects of four variables are statistically significant and the directions of effects are as we hypothesized, namely, the lesbian prevalence rate, the poverty index, the conservatism index, and the white-black segregation index. The larger the relative number of lesbians in an MSA, the lower the level of segregation between partnered lesbians households and married different-sex households. And the higher the poverty rate and the conservatism index and the racial segregation score in the MSA, the higher the level of segregation between partnered lesbians households and married different-sex households.

The results of the regression equation modeling the variation in residential segregation between partnered lesbians households and male-female cohabiting households are shown in column 4. They are the same as those in the equation of same-sex female partners versus married different-sex partners, with one exception: the conservatism index does not have a statistically significant effect. Both of the lesbian equations have the same adjusted R^2 values of 0.48, indicating that the independent variables account for almost one-half of the variation in residential segregation in both equations.

We have also calculated standardized regression coefficients for the independent variables in the four regression equations (results are not shown in Table 4). We found that in the two equations predicting the segregation of partnered same-sex male households from heterosexual households, the most influential predictor by far is the gay male prevalence score. Its fully standardized coefficients in these two equations are -.80 and -.83, respectively. By comparison the standardized coefficients for the next most influential predictor variable in the two equations, the conservatism index, are .25 and .23. This means that the gay male prevalence index is more than three times as influential as the conservatism index.

We next discuss the standardized coefficients in the two equations predicting segregation between lesbian partners and heterosexual partners. In the equation predicting segregation with married different-sex partners, the most influential independent variable is lesbian prevalence, with a standardized coefficient of -.45, and the second most important effect is the poverty index, with a standardized coefficient of .37. But in the equation predicting segregation with cohabiting different-sex partners, the order is reversed, with the poverty index having the highest relative impact, followed closely by the lesbian prevalence index. The presence of lesbians in an MSA is a powerful and influential negative predictor of lesbian segregation from different-sex partners, but it is not as important a predictor as is the presence of gay men in equations predicting gay male versus heterosexual segregation.

Finally, we turn to the results of the regression equation modeling the variation across the 100 MSAs in residential segregation between gay males and lesbians. We used the same seven independent variables as in the other four equations, even though we lack relevant theoretical bases for the predictions. The regression results are shown in the fifth column of Table 4. The gay male prevalence rate is the most influential predictor of segregation between gay males and lesbians, followed by the poverty rate. The more gay males there are in an MSA, the less the degree to which gay males are residentially segregated from lesbians. And the higher the poverty rate in an MSA, the higher the residential segregation level between gay males and lesbians.

In all the equations, two ecological variable associated with homosexuality, namely the sodomy and discrimination index and population size, were significant only in the gay male equations, but not significant in the lesbian equations. The white-black segregation index was significant only in the lesbian equations.

Conclusion

This paper has accomplished its main objective, namely, gauging the levels of homosexual-heterosexual residential segregation in the 100 MSAs containing the vast majority of same-sex

households in America. Overall, we find that there is a sizable amount of segregation and that this segregation exists with somewhat different dynamics than racial and ethnic residential segregation. Further, we find that gay male partnered households are more segregated from different-sex partnered households than are lesbian partnered households. We also find that levels of segregation vary negatively across the MSAs with the prevalence of the gay male and lesbian populations.

However, homosexual-heterosexual residential segregation varies significantly across MSAs, and we have only laid the foundation for discovering possible factors associated with this variation. Our analyses have been based largely on the prior findings from literature on racial and ethnic residential segregation and the growing literature on LGBT neighborhoods and enclaves in assessing factors related to the social climate and the degree of tolerance specific to the LGBT community.

While our findings further support the assumption that spatial patterns reflect social distances and relationships (Fossett and Cready 1998), more ecologically-based hypotheses need to be developed and tested specific to the LGBT population in an attempt to further explain the variation. For example, the literature on the creative class, gentrification and gay stereotypes related to the housing market may be one place to start. To this point, literature has suggested differential accesses to economic, academic, and community-based resources, the ability to garner political support, and an affinity for architecture and historic preservation as other potential factors at work in creating LGBT spaces and enclaves (Compton and Baumle 2012).

Research has also indicated that more politically and religiously conservative areas tend to have a lower prevalence of same-sex partners (Walther and Poston, 2004; Walther *et al.*, 2011) than less conservative areas. If these findings may be extended to segregation, one would expect that politically and religiously conservative MSAs should have higher levels of segregation than less conservative areas. Our results assessing this issue is mixed; they suggest that such concerns have an effect in predicting gay male segregation from different-sex partners, but do not fare as well in predicting lesbian segregation from different-sex partners. We need to further examine this hypothesis, perhaps by introducing other measures of religious and political conservatism. It is also unclear if and how changing social tolerance rates and more recent changes in legislation may be affecting segregation. To date, available data have been limited, and analyses could well benefit from a temporal lag between recent legislative changes and data collection.

We also encourage future analyses to develop and test hypotheses related to family structure and composition. We suspect these would also correlate with economic resources and the stereotype that gay men (and lesbians) have greater disposable income. Moreover, there is likely an inclination among households with the presence of children to prefer different neighborhood amenities than those without children such as the quality of schools, lower crime rates and other issues (Compton and Baumle 2012; Doan and Higgins 2011, Anacker and Morrow-Jones 2005).

We are not able to address in more detail the issue of whether homosexual-heterosexual segregation is more voluntary than involuntary with census data. Questions about whether same-sex partners wish to live near others like themselves, or whether they are being avoided and shunned by heterosexual partners may best be explored qualitatively and through community and social climate surveys. Prior qualitative work has consistently demonstrated that more than one factor affects residential decisions. Indeed, Compton and Baumle (2012) have informed us that while economics and job opportunities have a great deal to do with residential opportunities and choices, same-sex

couples also greatly value cultural amenities and at least some access to a LGBT community. To date, research supports evidence of both voluntary and involuntary aspects of segregation (Compton and Baumle 2012; Ghaziani 2014), and it is likely that both are at play. As such, while each MSA, and the neighborhoods within it, have their own identities and local contexts, the overall measures of segregation do demonstrate wider structural trends that suggest social distancing attributable to differences in sexual orientation.

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Appendix

Table 1. Five Segregation Indexes using the Conventional Measure of Dissimilarity, 100 Metropolitan Statistical Areas, 2008-1012 ACS

MSA	M-M vs. M-F Married	M-M vs. M-F cohabiting	F-F vs. M-F married	F-F vs. M-F cohabiting	M-M vs. F-F
Akron, OH	0.766	0.810	0.702	0.766	0.818
Albany, NY	0.683	0.653	0.598	0.594	0.683
Albuquerque, NM	0.680	0.678	0.624	0.617	0.725
Allentown, PA	0.713	0.737	0.641	0.626	0.776
Atlanta, GA	0.684	0.690	0.706	0.719	0.731
Augusta, GA	0.891	0.899	0.720	0.746	0.867
Austin, TX	0.646	0.615	0.585	0.557	0.671
Bakersfield, CA	0.856	0.840	0.663	0.668	0.856
Baltimore, MD	0.781	0.798	0.691	0.692	0.805
Baton Rouge, LA	0.747	0.802	0.741	0.764	0.818
Birmingham, AL	0.815	0.799	0.800	0.764	0.841
Boise, ID	0.832	0.825	0.676	0.651	0.900
Boston, MA	0.665	0.652	0.557	0.571	0.703
Buffalo, NY	0.765	0.803	0.764	0.765	0.820
Charleston, SC	0.742	0.769	0.743	0.737	0.717
Charlotte, NC	0.780	0.767	0.767	0.757	0.806
Chattanooga, TN	0.792	0.773	0.670	0.601	0.756
Chicago, IL	0.758	0.737	0.746	0.747	0.757
Cincinnati, OH	0.788	0.780	0.676	0.690	0.811
Cleveland, OH	0.763	0.785	0.750	0.741	0.704
College Station, TX	0.864	0.915	0.751	0.770	0.821
Colorado Springs, CO	0.816	0.785	0.749	0.728	0.658
Columbia, SC	0.779	0.761	0.774	0.767	0.809
Columbus, OH	0.684	0.686	0.606	0.618	0.720
Dallas, TX	0.721	0.713	0.711	0.724	0.778
Dayton, OH	0.747	0.746	0.703	0.707	0.818
Daytona Beach, FL	0.764	0.774	0.687	0.704	0.874
Denver, CO	0.691	0.653	0.627	0.630	0.715
Des Moines, IA	0.766	0.713	0.647	0.670	0.761
Detroit, MI	0.809	0.837	0.773	0.778	0.829
El Paso, TX	0.881	0.853	0.790	0.838	0.976
Fort Myers, FL	0.736	0.775	0.703	0.692	0.862
Fresno, CA	0.776	0.760	0.720	0.707	0.810
Grand Rapids, MI	0.773	0.727	0.677	0.700	0.822
Greensboro, NC	0.764	0.769	0.723	0.736	0.813
Greenville, SC	0.802	0.820	0.771	0.768	0.866
Harrisburg, PA	0.650	0.610	0.670	0.668	0.717
Hartford, CT	0.724	0.743	0.607	0.616	0.782

Honolulu, HI	0.761	0.688	0.648	0.646	0.786
Houston, TX	0.771	0.789	0.725	0.746	0.775
Indianapolis, IN	0.730	0.706	0.654	0.653	0.802
Jackson, MS	0.832	0.839	0.770	0.830	0.911
Jacksonville, FL	0.735	0.727	0.665	0.661	0.827
Kansas City, MO-KS	0.775	0.743	0.690	0.692	0.719
Knoxville, TN	0.796	0.778	0.737	0.784	0.815
Lakeland, FL	0.721	0.690	0.692	0.706	0.755
Las Vegas, NV	0.691	0.676	0.741	0.749	0.833
Little Rock, AR	0.816	0.804	0.723	0.735	0.826
Los Angeles, CA	0.732	0.719	0.724	0.742	0.770
Louisville, KY	0.763	0.753	0.637	0.656	0.803
Madison, WI	0.649	0.612	0.521	0.517	0.715
McAllen, TX	0.824	0.815	0.832	0.842	0.887
Memphis. TN	0.771	0.785	0.784	0.803	0.812
Miami, FL	0.712	0.699	0.742	0.738	0.777
Milwaukee, WI	0.767	0.798	0.782	0.786	0.788
Minneapolis, MN	0.706	0.671	0.647	0.637	0.659
Nashville, TN	0.716	0.680	0.706	0.691	0.775
New Haven, CT	0.711	0.733	0.585	0.646	0.668
New Orleans, LA	0.788	0.782	0.766	0.771	0.822
New York, NY	0.715	0.700	0.729	0.717	0.737
North Port, FL	0.626	0.637	0.626	0.634	0.785
Ogden, UT	0.815	0.847	0.648	0.652	0.866
Oklahoma City, OK	0.773	0.774	0.697	0.703	0.820
Omaha, NE	0.772	0.778	0.763	0.747	0.847
Orlando, FL	0.619	0.627	0.644	0.625	0.737
Oxnard, CA	0.771	0.738	0.733	0.753	0.859
Palm Bay, FL	0.690	0.691	0.715	0.709	0.656
Philadelphia, PA	0.732	0.753	0.690	0.697	0.762
Phoenix, AZ	0.750	0.737	0.672	0.686	0.778
Pittsburgh, PA	0.788	0.787	0.720	0.734	0.796
Portland, OR	0.652	0.608	0.603	0.547	0.604
Providence, RI	0.689	0.690	0.619	0.669	0.795
Provo-Orem, UT	0.918	0.940	0.603	0.577	0.952
Raleigh, NC	0.732	0.732	0.666	0.694	0.776
Richmond, VA	0.795	0.826	0.752	0.733	0.821
Riverside, CA	0.799	0.813	0.708	0.716	0.764
Rochester, NY	0.738	0.732	0.616	0.604	0.685
Sacramento, CA	0.743	0.723	0.644	0.646	0.752
Salt Lake City, UT	0.697	0.680	0.695	0.636	0.697
San Antonio, TX	0.804	0.827	0.748	0.739	0.845
San Diego, CA	0.718	0.684	0.669	0.637	0.668
San Francisco, CA	0.638	0.612	0.638	0.628	0.630
San Jose, CA	0.767	0.743	0.691	0.666	0.753

Scranton, PA	0.769	0.788	0.728	0.720	0.795
Seattle, WA	0.655	0.622	0.613	0.607	0.646
Spokane, WA	0.735	0.703	0.704	0.677	0.782
Springfield, MA	0.716	0.708	0.566	0.602	0.751
St. Louis, MO-IL	0.790	0.813	0.733	0.745	0.843
Stamford, CT	0.755	0.734	0.721	0.718	0.787
Stockton, CA	0.736	0.741	0.710	0.753	0.803
Syracuse, NY	0.748	0.712	0.727	0.741	0.798
Toledo, OH	0.766	0.789	0.687	0.736	0.847
Tucson, AZ	0.670	0.697	0.641	0.657	0.754
Tulsa, OK	0.787	0.77	0.736	0.692	0.820
Virginia Beach, VA	0.845	0.819	0.779	0.748	0.889
Washington DC	0.722	0.686	0.702	0.716	0.784
Wichita, KS	0.844	0.860	0.688	0.707	0.875
Winston-Salem, NC	0.786	0.804	0.751	0.735	0.790
Worcester, MA	0.677	0.719	0.621	0.644	0.789
Youngstown, OH	0.818	0.800	0.762	0.757	0.887