# The Grounds For Marriage: Differences Across Sexual Orientation

By Douglas W. Allen<sup>\*</sup>

March 2012

### ABSTRACT

The ability to cheaply procreate is a significant difference between heterosexual and non-heterosexual unions. A framework is proposed in which this difference increases the demand for lifestyles complementary to children (including marriage) for heterosexuals. This difference also influences the presence of children within the household, and the importance of genetic characteristics in choosing a mate for heterosexuals relative to other sexual orientations. Using a unique nationally representative probability sample data set that directly identifies sexual orientation, these predictions are confirmed.

<sup>\*</sup> Burnaby Mountain Professor, Simon Fraser University. This research and analysis are based on CCHS data from Statistics Canada and the opinions expressed do not represent the views of Statistics Canada. Thanks to Yoram Barzel, Kitt Carpenter, Ben Harris, Eric Kimbrough, and Don Wittman for comments.

### 1. Introduction

Within the nascent social science empirical literature on lesbian parenting it is commonplace to portray same-sex couples as identical to heterosexual couples in terms of their incentives to marry, and their frequency to raise children.<sup>1</sup> These claims are made despite obvious differences in the ability to directly procreate, and a lack of any solid evidence to back up such claims.<sup>2</sup> Economists have generally ignored same-sex households, but recent work on labor market choices has shown that same-sex couples often make different human capital, savings, and occupational choices that reflect their life-style, gender composition, and procreative constraints.<sup>3</sup> The small quantity of work done by economists generally stands in contrast to the

<sup>1</sup> Consider the following:

Many gay men and lesbians, like their heterosexual counterparts, desire to form stable, long-lasting, and committed intimate relationships

[American Psychological Association, 2011]

A high level of demand for marriage by same-sex couples ... indicates, like different-sex couples, same-sex couples wish to marry for reasons having to do with establishing a long-term commitment to one another, demonstrating commitment to families .... Many same-sex couples are raising children ...

[Badgett, p. 1105, 2010]

The frequency of lesbian childbearing in the United States has been growing in recent years to such an extent that many researchers have referred to a "lesbian baby boom."

[Patterson, p. 115, 1995]

 $^2$  Nock (2001), provided an in-depth assessment of the same-sex parenting literature. He found no studies that relied on probability samples; that data was mostly collected by a single person; that there was ubiquitous and serious sources of bias; and that tiny samples were used. He concluded that "... the only acceptable conclusion at this point is that the literature on this topic does not constitute a solid body of scientific evidence." (p. 47, 2001). Allen (2011) reviews fifty-two studies of same-sex parenting from 1995–2010, and found little had changed since Nock's assessment.

 $^3$  For example, Harris (2011) finds that gay men and lesbian women choose different work hours and job amenities compared to their straight counterparts, and Negrusa and Oreffice (2011) find that savings rates are much higher for lesbian couples than gay or heterosexual couples. Indeed, Black *et al.* (2007) comment: broader social science claims, but none of the economic work directly relates to family or marriage behavior.<sup>4</sup> To an economist it would be odd, indeed, if fundamental differences between couples (whether same-sex or not) failed to manifest in differences in reasons to marry, frequency of marriage, and the presence of children. The emergence of legal same-sex marriage in Canada, along with new Canadian data that directly identifies different sexual orientations provides an opportunity to test the idea that differences in a procreation constraint influence marriage, spousal search, fertility, cohabitation, and lifestyle choices.

It is well known, a la Becker (1981), that households produce commodities: everything from mundane laundry and meals to profound social and human capital. It is also well known that these commodities are an insufficient explanation for marriage since household production takes place independently of marriage. Marriage, on the other hand, is an institution, a system of social factors that work together for some objective.<sup>5</sup> Within a growing institutional economics approach to marriage this objective is mostly — but not exclusively — seen to connect children with their biological parents in a loving relationship throughout their lifetime.<sup>6</sup> Hence, although marriage — through bonding, screening, and investment functions; legal incentives and sanctions; and social and family pressures — can enhance household production and improve mate selection, its institutional value ultimately comes from

Gay men and lesbian women face constraints that differ from heterosexual individuals — constraints that affect decisions at the family level and therefore spill over into other aspects of economic life. [p. 54, 2007]

On the other hand, for some types of decisions and behaviors, economists have found same sex couples are similar to opposite sex couples. For example, Oreffice (2011) found that gay and lesbian couples labor supplies respond to bargaining threat points in the same fashion as heterosexual couples, and Jepsen and Jepsen (2002) found similarities in assortative mating across the different sexual orientations.

<sup>&</sup>lt;sup>4</sup> An exception is Carpenter and Gates (2008) who exploit self-identified sexual orientation data in California. They are interested in describing cohabitation rates, partnerships, and family formation for lesbians and gays.

<sup>&</sup>lt;sup>5</sup> This definition of an "institution" is based on Greif (p. 30, 2006)

<sup>&</sup>lt;sup>6</sup> Here this is assumed to be the function of marriage.

mitigating the transaction cost problems that arise over the life cycle from procreation.<sup>7</sup> This institutional approach to marriage explains the ubiquitous nature of marriage across cultures and times. Many couples uninterested in, or unable to produce, children may still marry in order to capture the secondary benefits, but of those interested in children there is a strong incentive to marry and a strong social pressure to be married.<sup>8</sup>

One fundamental constraint for same-sex couples that distinguishes them from opposite-sex couples is the inability to procreate on their own. Therefore, they must engage in some type of more expensive procedure to acquire children — if they want them.<sup>9</sup> The law of demand holds for everything, and a higher price of children means that fewer are demanded by same-sex couples, even if they have the same demand for children as opposite-sex couples. A smaller chance of having children lowers the cost of same-sex couples engaging in behaviors, lifestyles, and social capital investments that are not complementary with children. Hence, on many dimensions the behavior of same-sex couples is likely to be different from opposite-sex couples, not because they have different preferences (which they may), but because the shadow prices they face are different. These differences should extend to marriage itself, and the sorting for partners.

Coupling involves more than having children, of course, and so same-sex, and many opposite-sex, couples still seek out mates for sex, a loving relationship, and household production, even when children are not a realistic or valued option. For the most part, the legal protections of common law cohabitation are sufficient for

 $<sup>^{7}\,</sup>$  For example, marriage encourages investment in family specific assets by protecting the interests of those making the investment.

<sup>&</sup>lt;sup>8</sup> See Cohen (1987, 1995) for early discussions on the economic reasons for marriage. See Dnes and Rowthorn (2002), Gallagher (2004), Allen (2006), Blankenhorn (2007), or Matouschek and Rasul (2008) for more recent discussions.

<sup>&</sup>lt;sup>9</sup> Given the current channels by which a same sex couple must either conceive, adopt, or otherwise acquire children, all methods are considerably more costly than heterosexual sex. The differences in the cost of acquiring children can also spill over in terms of the costs of rearing them, where often the surrogate, sperm donor, or some other third party is involved in parenting.

these couples, but childless couples may still desire to marry because the institutional features of marriage can enhance non-child related functions within the relationships.<sup>10</sup> Still, the general absence of children will lead to a different demand for marriage for childless couples.

Thus, though both same and opposite-sex couples are present in the marriage market, there should be at least four differences in their family behaviors. First, same-sex couples should have fewer children than opposite sex couples because children are more costly to acquire. Second, same-sex couples should be less likely to marry compared to opposite-sex couples because the reduced expectation of children lowers their demand for the institutional protections of marriage. Third, because children are less involved in their relationships and lifestyles, gays and lesbians (both singles and couples) should be more likely to engage in other behaviors that are not complementary with children. Finally, searching and sorting behavior should be different to the extent that on average same-sex couples likely seek different characteristics in a partner compared to their heterosexual counterparts. Oppositesex couples worry more about the genetic match and quality of their mate because these attributes get passed on to their children and effect the probability of their mate being alive for the duration of child rearing. On the other hand, same-sex couples should be less likely to sort on dimensions of genetic fitness or health traits that could be passed on to children or lead to a shorter life expectancy because same-sex mates cannot procreate.

Here a very special data set is used to analyze different types of households in terms of their potential marriage behavior. The data come from the Canadian

<sup>&</sup>lt;sup>10</sup> Even in jurisdictions where the legal rights to cohabitating couples are identical to married couples (as in Canada since 1997), marriage provides non-legal institutional protections. For example, a formal wedding is a public promise, and for many the ceremony, vows, and sunk financial investment encourage good behavior — especially over the early years of the marriage. The recent trend in elaborate and expensive weddings among low and middle class families may be the result of the equal legal standing between common law and formal marriage as families attempt to post hostage capital for better performance. Any non-legal protections that encourage good behavior also make leaving marriage more costly. For example, strong cultural norms over marriage will encourage good behavior within the marriage and make divorce more difficult. The point being, just because the legal rights to common law living and marriage are the same does not make them perfect substitutes.

Community Health Survey (CCHS), which is a large, nationally representative, probability sample of Canadian households that directly identifies sexual orientation. This allows for the direct identification of gay and lesbian individuals (single and married).<sup>11</sup> The CCHS shows that same-sex couples currently are not likely to marry, there are very few children in these relationships, and the evidence suggests same-sex couples sort on different dimensions than opposite-sex couples.<sup>12</sup> This evidence supports the institutional view of marriage as a set of constraints designed around children. The evidence also suggest there is heterogeneity in the behaviors of lesbians versus gays, and this suggests that differences in sexual orientation are more nuanced than the simple heterosexual vs. homosexual split.

### 2. The Analytic Framework

The empirical work of the paper is driven by a simple framework. People differ by their preferences over children, household goods, and other goods. These preferences influence the institutional choices made, the willingness to engage in different types of consumption, and sorting behavior for mates.

#### Preferences

Assume there are three different types of people who vary in terms of their preferences. These preferences are given in equations (1) - (3)

$$U^a = u(C, H, S_1) \tag{1}$$

<sup>&</sup>lt;sup>11</sup> It also allows for the identification of bi-sexuals. Bi-sexuals are much more difficult to analyze within the framework provided here because they may be in same or opposite sex unions, and it is unclear what their expectations of future relationships are. As a result, I drop bi-sexuals from the analysis. However, none of the general results of the paper change when bi-sexuals are included.

 $<sup>^{12}</sup>$  Of course, the data here only provide a snap shot at the static differences across sexual orientations. It will take time for the steady state equilibrium number of children to arise. On the one hand, the number may increase as more gays and lesbians marry and have families. On the other hand, it is likely that most of the children currently present in gay and lesbian homes come from a previous heterosexual marriage, and over time this route to gay and lesbian parenthood should diminish.

$$U^{b} = u(H, S_{1}, \dots S_{n})$$
<sup>(2)</sup>

$$U^c = u(S_2, \dots S_n) \tag{3}$$

Type *a* individuals are interested in children (*C*), household goods (*H*), and monogamous sex ( $S_1$ ). Monogamy and children are assumed to be jointly consumed. The goods  $S_2...S_n$  are not complementary with children. These goods could be interpreted as different sexual partners, drug use, smoking, excessive alcohol consumption, night clubbing, and the like. Type *b* individuals are interested in household goods and monogamous sex,  $S_1$ . They are also interested in goods  $S_2...S_n$ , since they are not interested in children. Finally, a type *c* person is only interested in non-exclusive sexual relations, and other goods not complementary with children.

Every individual faces a set of their own shadow prices for each of the goods of interest. Given their preferences and prices, each individual has a demand for the goods that interest them. For example, a type *a* person would have a demand for children given by  $C_a^*(\pi_C^a, \pi_H^a, \pi_{S_1}^a)$ , where  $\pi_i^a$  is the shadow price of each good for that individual.<sup>13</sup>

#### Institutional Choice

Institutions are costly sets of rules that provide incentives for individuals to produce. An institutional choice depends on the perceived costs and benefits of that choice, which in turn depends on the goods each individual *actually* ends up consuming. If a person ends up with children, they will have a strong incentive to choose marriage, regardless of their type, because, by assumption, marriage provides a set of institutional protections and obligations that produce high quality children. Childless couples, who for whatever reason decide to set  $S_2 = ...S_n = 0$ , might also decide to marry because the marriage institution also supports regular

 $<sup>^{13}\,</sup>$  I assume that all demands are negatively related to their own shadow prices.

household production, friendship between the couple, and monogamous sexual relations. However, marriage is costly. Among other things, marriage comes with a lifelong commitment to monogamy that is costly to renege on, marriage involves some type of public promise that constrains behavior, and marriage involves significant investments in family social capital. As a result, many childless couples (and some couples with children) opt to live in common law relationships. Individuals who end up with neither children nor household production remain single.

Thus, even though there are three different types of people, there is not a one-toone correspondence between a person's type and their institutional choice. Different people face different circumstances, these lead to different consumption choices, and therefore, different institutional choices. Other things equal, we might expect type a individuals to be more likely to marry; type b individuals to be more likely to live common law; and type c individuals to be more likely to remain single. However, type a people can end up childless, and type b people might end up with children, in which case the incentives for institutional choice are reversed. However, the stronger the likelihood of children, the more likely marriage, and the stronger the likelihood of consumption of goods not conducive to children, the more likely is singlehood.

#### Sorting Behavior

Assume that every male (m) and female (f) is characterized by three factors. The first factor is sexual attraction (s), which is an index of more fundamental features such as height, weight, attractiveness, and the like that others find sexually interesting. The second factor is household productivity (h), which is an index of fundamental features such as age, human capital, personality, and the like that make someone a productive household partner. Finally, the third factor is genetic quality (g), which is another index of expected longevity, health, and other features that could be genetically passed on to children. It is further assumed that there is a critical level  $g = g^{\min}$  which is a minimum genetic quality for matching for children. For example, an infertile person may have  $g_i < g^{\min}$ , and thus infertility would disqualify someone from entering a sorting market for children. All three indices are observable to all people, and all males and females rank all indices the same. Furthermore, assume each trait s, g, h is complementary to itself, and so the matching surplus increases in g, s, and h. Finally, the surplus from any match is super modular, meaning the joint surplus arising from similarly matched individuals is greater than the joint surplus of cross matches.<sup>14</sup> These assumptions mean that there will be a unique equilibrium set of matches, characterized by assortative matching.

Because all of the characteristics are observed, there is costless assortative matching across the traits people are interested in. High quality males match with high quality females, and low quality males match with low quality females across the relevant traits.<sup>15</sup> However, for those individuals with genetic qualities below the critical level  $g^{\min}$  they will be shut out of the market for children.

### The Effect of Sexual Orientation

For the sake of argument, assume that the type of person is independent of one's sexual orientation. Gays, lesbians, and heterosexuals all have the same probabilities of being type a, b, or c individuals. The fundamental difference, however, between heterosexual relationships and the others rests on the fact that differentsexed households can procreate with each other at a very low cost and same-sex households cannot. Same-sex households must engage in some type of costly adoption, surrogacy, kinship group, or assisted insemination. In other words, same-sex households face a high shadow price  $\pi_C$ . For many, these costs might be prohibitive, and  $C^* = 0$ . This lowers the institutional demand for marriage for these couples, and therefore the aggregate demand for marriage by same-sex couples is also reduced.<sup>16</sup> This higher price for children means that even type a non-heterosexual

<sup>&</sup>lt;sup>14</sup> Chiappori *et al.* p. 8, 2010. Allen (1992) shows that this assumption is reasonable in the context of cohabitation or marriage when the individuals share a marital good.

<sup>&</sup>lt;sup>15</sup> Although substitution across traits is possible, given the assumption of super modularity there will be assortative mating across all relevant traits.

<sup>&</sup>lt;sup>16</sup> Since  $\pi_C$  is higher for same-sex couples than opposite-sex couples, even when children are present in the household there should be fewer of them.

individuals are more likely to opt for a common law or single living arrangement. In other words, non-heterosexuals are expected to have zero children more often, and therefore, to marry less frequently as well.

On the other hand, type a heterosexuals are likely to have children, and therefore very likely to marry. Ironically, many type b heterosexuals who do not want children may end up with them unexpectedly, and as a result they likely end up converting their common law unions to marriage because that institution best connects children with their biological parents and enhances the quality of children. Even type cheterosexuals could find themselves in a "shotgun" marriage situation where an unexpected pregnancy leads to marriage. Therefore, marriage should be more likely among heterosexuals, and these marriages should contain more children.

Furthermore, there is a strong difference in the shadow price of children between gays and lesbians. Lesbians have an easier time in becoming pregnant and producing a child than gay men do. Part of this is legal — contracting by gay men for lesbian surrogates is wrought with uncertainties and reduced rights as parents. On the other hand, for lesbians sperm donation is not only easier, the legal rights of the mother relative to the biological father are clear. The logistics of procreating within a gay household are also more difficult given that gestation takes place within a female.<sup>17</sup>

These effects have straightforward implications for sorting behavior across the different sexual orientations. For type a heterosexuals it is important to sort across all three characteristics. Husbands and wives want to be sexually compatible, productive in the household, and they want high quality offspring. Any couple expecting to create their own children should select mates who have a set of characteristics suitable for procreation. They should be attracted to each other, and be genetically healthy. The health status and overall genetic quality of their spouse is important, because genetic health not only is passed on to children, but it correlates with

 $<sup>^{17}</sup>$  See Vonk (2004) for a fascinating discussion regarding the complexities of defining a parent in the Netherlands after the legalization of same-sex marriage.

longevity which is important in the production of quality offspring that often takes a lifetime.<sup>18</sup>

Regardless of their type, if non-heterosexual oriented couples cannot have children together, then they are less interested in the genetic quality and health of their mate because no biological traits will be passed on to children. This is true even if they want to have children because they will not procreate *as a couple*. This effect is stronger for gay couples than for lesbian couples. Herein lies the difference between heterosexual and homosexual sorting patterns. Because same-sex couples do not care about the quality of the genetic attribute, that character trait should have nothing to do with the probability of becoming married. Since pregnancy is not an option for same-sex common law couples either, even in this type of relationship sorting will be different for same-sex and opposite-sex couples.

This simple analytic framework leads to the major predictions of this paper.<sup>19</sup>

- 1. Non-heterosexual couples are less likely to marry and less likely to have children.
- 2. Among non-heterosexual couples, gay men are less likely to marry and less likely to have children compared to less likely.
- 3. Non-heterosexual couples are more likely to engage in the consumption of goods that are non-complementary with children.
- 4. Non-heterosexual couples should not sort for mates along health or genetic lines.

The differences in behavior arise even though there is no difference in the preferences for goods across the different types of sexual orientations. The different behavior is predicted because different sexual orientations face different shadow prices.<sup>20</sup>

 $<sup>^{18}\,</sup>$  Ironically, even for type b heteros exuals sorting will involve some consideration of the health of their partner because the ability to procreate is always present.

<sup>&</sup>lt;sup>19</sup> These predictions would hold for other types of couples who, ex ante we could predict would have high costs procreation. For example, these predictions would apply to infertile or elderly couples. Unfortunately, the data set used here does not allow the identification of such couples.

 $<sup>^{20}</sup>$  A strong argument could be made that humans are hard wired through natural selection to

### 3. Results

#### 3.1. The Data

Data come from repeated waves of the Canadian Community Health Survey (CCHS). This is a probability sample survey with a cross-sectional design of approximately 65,000 respondents per year. The target population of the CCHS is all Canadians aged 12 and over, and it covers 98% of the provincial population. Data is collected voluntarily and directly from survey respondents through computer assisted interviews. Data for this paper comes from years 2005, 2007, 2008, and 2009 — all years after same-sex marriage became legal across the country. The paper uses the restricted master files.<sup>21</sup>

The CCHS has extensive information on the respondent, but only limited information on all other members of the household. What makes it particularly unique is that it directly identifies sexual orientation: heterosexual, gay, lesbian, and bisexuality. Some might critique direct self-reporting of sexual orientation on the grounds that some individuals are unwilling to reveal such sensitive information; however, it is better than the alternative. In studies that use the census or other such data sets, same-sex *couples* are identified through correct responses to a series of questions that i) identifies them as married or common-law, ii) identifies their sex, and iii) identifies their spouse as the same-sex. Such measures fail to identify gays or lesbians who are single, fail to distinguish bi-sexual individuals, are subject to the same under-reporting problem when same-sex couples are reluctant to identify themselves as married or common-law, and have the added problem of

create biological children. This would increase the demand for children by heterosexuals and reinforce the model here.

<sup>&</sup>lt;sup>21</sup> The full CCHS is not a public use data set. To use the data, a proposal is screened by the Social Sciences Research Council of Canada, an RCMP criminal check is conducted, and the researcher becomes a deemed employee of Statistics Canada subject to the penalties of the Statistics Act. Results are screened by Statistics Canada, and as a result, no maximums or minimums for variables are reported in this paper, and the data are not available from the author.

capturing large numbers of heterosexual couples who incorrectly record the wrong sex.<sup>22</sup> A second advantage of using the CCHS is that the data are from Canada where same-sex couples have had all taxation and government benefits since 1997, and where same-sex marriage has been legal since  $2005.^{23}$  All things considered, the CCHS is perhaps the best large, random sample data set available to study non-heterosexuals.

#### 3.2. Basic Demographics

Table 1 shows some estimated population relationship characteristics for lesbian households in Canada.<sup>24</sup> The first striking feature is that the estimated total number of lesbians in Canada is just  $80,209.^{25}$  Just over one-half of lesbians (41,363) live in two person households. In just over one-half of these cases (23,335) the two people are a lesbian common-law couple, about 15% are with roommates, 9% are married, and only 5% are made up of a lesbian mother and child under 18. Overall, 41.9% of lesbians are single, and only 12.2% of them are married. The estimated total number of children under 18 living with a lesbian is just 23,698, or about one-third of one percent of the children under 18 in Canada. Most of the children living with lesbians live in households with more than two people in them.<sup>26</sup>

 $<sup>^{22}</sup>$  The Williams Institute 2010 census study claims that the total national error rate is approximately 0.25%. The problem is that small errors in the large heterosexual response rate leads to large errors in the small same-sex sample.

 $<sup>^{23}</sup>$  The first Canadian same-sex marriages took place on January 14, 2001 at the Toronto Metropolitan Community Church. These became the basis of a successful legal challenge which ended at the court of appeal on June 10, 2003. On July 20, 2005, the Federal government passed the Civil Marriage Act that made Canada the fourth country in the world to legalize same-sex marriage. Thus, different people date the arrival of same-sex marriage in Canada as 2001, 2003, or 2005. Biblarz and Savci (p. 490, 2010) note that legalization has reduced the stress and stigma of homosexuality in Canada, which makes it more likely that respondents would be unintimidated to respond correctly to the CCHS.

<sup>&</sup>lt;sup>24</sup> Almost all of the results of this paper are weighted estimates from the CCHS sample. As a result, I will normally drop the adjective "estimated" unless the context calls for clarification.

 $<sup>^{25}</sup>$  Lesbians make up around 1/3 of 1 percent of the CCHS sample. Over the time period of the samples the population of Canada averaged just over 33 million people.

 $<sup>^{26}</sup>$  These low fertility findings are consistent with other empirical work. For example, Negrusa and Oreffice (2011) claim that the higher savings rate for lesbian couples partly reflects "their very low fertility."

Table 2 shows the same estimated population relationship characteristics for gay households. In several ways, gays are similar to lesbians. Like the number of lesbians, the estimated number of gays (142,038) is quite small. Like lesbians, almost half the gays live in two member households, with close to one-half of these households in common-law relationships. On the other hand, there are considerably more gays than lesbians.<sup>27</sup> Furthermore, gay men are much more likely to be single (61.7%) than lesbians, and there are many fewer children under 18 living with them (11,677). Only 4.9% of gay men are married.

Contrast these numbers with those of heterosexuals found in Table 3. Heterosexuals are the least likely to be single, the least likely to be living alone, and the most likely to be married. Table 4 points to other profound differences between the various household types. According the CCHS, the percentages of non-heterosexual orientations are extremely small, with gays and lesbians making up .53% and .30% of the entire population.<sup>28</sup> Whereas 40.2% of the heterosexual households have at least one child under the age of 18, gay and lesbian households have only 5.7% and 20.3%. In terms of income, the CCHS confirms other findings that show gay and lesbian households do not appear to suffer an household income penalty.<sup>29</sup> For gays this holds for every size of household.

Table 4 points to several other striking differences. Heterosexuals, despite their lower average incomes, are more likely to own their home compared to all other groups. Gays and lesbians are more likely to be white (especially lesbians), and on average are considerably more educated than the other household types. Heterosexuals are less likely to be smokers, on average. However, perhaps the most

 $<sup>^{27}</sup>$  Gays make up just under one-half of one percent of the CCHS sample. The fact that there are more gays than lesbians is fascinating, and consistent with several other studies.

 $<sup>^{28}</sup>$  The 95% confidence intervals for these estimates are .49%–.57% for gays and .28%–.33% for lesbians. These estimates are not that different from fractions found in other random samples. For example, Wainright *et al.* (2004), using the National Longitudinal Survey of Adolescence Health find that lesbians make up about 1/3 of one percent of the sample. Golombok *et al.* (2003), using the Avon Longitudinal Study of Parents and Children find that .22% of the mothers are lesbians.

<sup>&</sup>lt;sup>29</sup> See Ahmed, Andersson, & Hammarstedt (2011) or Carpenter (2004).

striking difference is with respect to sexual behavior. In this regard, lesbians and heterosexuals appear quite similar on average: 86.1% and 87.3% had only one sexual partner in the past twelve months, and around 3% of them had more than four. In contrast, gays are much less likely to have one sexual partner in the past twelve months, and more than four. Indeed, for gay men, 22.1% had more than four sexual partners in the past twelve months.

#### 3.3. Behaviors Non-Complementary With Children

Tables 5 to Table 7 investigate a series of behaviors that most would consider non-complementary with the presence of children. Each table contains the coefficients from five regressions: two for each male and female sample, and one full sample regression. Columns (1) and (3) in each table report the coefficients for a dummy variable for gays or lesbians, using a minimum number of controls, unweighted observations, and non-robust standard errors. Columns (2) and (4) in each table contains the coefficients for the same dummy variables, but with all controls, weighted observations, and robust standard errors. Finally, column (5) reports the regression results for the full sample when all controls, weights, and robust standard errors are used. This last column will most often be referred to.<sup>30</sup> When the regressions are logits the odds ratio is also reported.<sup>31</sup>

Table 5 reports the results on several logit regressions for smoking behavior. Considering the full sample in column (5) these results show that gays are more likely to smoke compared to their heterosexual counterparts. Looking at the odds ratios, gays are 57% more likely to smoke. Interestingly, lesbians are no more or less likely to smoke. Their odds ratios are close to one, and these results are statistically insignificant.

<sup>&</sup>lt;sup>30</sup> Every possible combination of controls, weighting, and robust errors was tried, but unreported to keep the table sizes manageable. The results from these unreported regressions generally lie between the two extremes reported.

<sup>&</sup>lt;sup>31</sup> The definitions of the variables used are in Table 1A in the appendix.

Table 6 reports the results of logit regressions on illegal drug use. Illegal drug use is defined as ever having used an illegal substance such as marijuana, cocaine, and the like.<sup>32</sup> Table 9 shows a fascinating result: both gays and lesbians have used illegal drugs more than heterosexuals, when most controls are ignored. However, from the regressions in columns (2), (4), and (5) we see that gays are no more likely to have used drugs, but lesbians are more likely. The odds ratios show that lesbians are three and a half times more likely to have used illegal drugs. This finding holds for all drug categories.

Finally, Table 7 reports some logit results where the dependent variable is whether or not the respondent has had sex with more than four partners in the past twelve months. Just looking at the full regressions in columns (2), (4), and (5) shows that gays and lesbians are much more likely to be sexually active this way. Gay men are four times more likely than heterosexual men to have had more than four partners, and lesbians are thirty-three times more likely than heterosexual women.

Taken together the results found in Table 5 to Table 7 show at least two things. First, the correlations between different sexual orientations and "non-family" behaviors show no obvious patterns across the different sexual orientations. Gays behave differently from lesbians, but also differently from heterosexuals. These differences in behavior no doubt stem from fundamental differences between the different types of sexual orientations. It suggests that lumping them together into a category of "non-heterosexuals" is likely inappropriate: whether done so in empirical work or legal regulation. Second, these results show that both categories of the non-heterosexual orientations engage in at least one type of behavior that is not "family friendly" relative to heterosexuals. From the first four tables it is clear that non-heterosexuals are small participants in families with children. Few of them get married, and few of the married ones have children. Not surprising then, these types of families more often engage in activities that do not complement child rearing.

 $<sup>^{32}</sup>$  The results do not change when the drugs are separated into individual categories.

#### 3.4. Presence of Children

If non-heterosexual couples and individuals engage in behaviors that are not complementary with children, then we should expect that children would not be living within these households. Table 1 to 4 showed that children were rare among gay and lesbian households, when various household characteristics were not controlled for. Table 8, confirms the findings from Table 1 to Table 4. This table shows the results of a logit regression on the full sample, using full controls, robust standard errors, and regression weights, where the dependent variable is whether or not a child under 18 is present in the household. Although both types of households are less likely to have such children present, there is a considerable difference between gay and lesbian households. For gays there is a large and statistically negative effect on the presence of children under 18 within the household. Looking at the odds ratio, the coefficient on gays means that heterosexuals are about 16 times less likely to have children present in the home compared to heterosexuals. On the other hand, lesbians are only about half as likely to have children compared to heterosexuals. This difference is consistent with the framework above. The results of the data thus far confirm the idea that non-heterosexual households are not organized around children. Given this, the sorting behavior for mates among non-heterosexuals should be different.

#### 3.5. Sorting Behavior

Since the CCHS is a cross-sectional data set many of the typical measures of attractiveness characteristics used by economists are endogenous and inappropriate here. For example, it is common to use the body mass index (BMI) as a measure of health and attraction. However, in a cross sectional data set, marital status and the BMI are clearly endogenous: muscular low BMI individuals might be more likely to get married, but married individuals are more likely to become obese. Without a time series to sort this out, BMI is not useful as an exogenous shock to attractiveness or genetic fitness. Fortunately, the CCHS contains excellent information on an individual's health status. It provides information on many health problems, but also calculates an index of health based on vision, speech, hearing, dexterity, cognition, mobility, or emotional disorders.<sup>33</sup> I use this health index as a measure of genetic fitness.<sup>34</sup> Although the health index ranges from negative values to one, I create a health dummy variable that equals zero if the health index is less than one, and equals one otherwise. This corresponds to the minimum health threshold mentioned in the analytic framework.<sup>35</sup>

Table 9 reports several multinomial regressions which simultaneously estimate binary logits for all comparisons among the dependent categories for males, females, and the full sample. Of interest is whether or not an individual chooses to marry, live common-law, or remain single. Hence, the top portion of Table 9 reports the key findings for being in marriage relative to living single, and bottom portion reports the key findings for living common law relative to living single. Consider the full sample regression in column (5) for the "now married" category in the top portion of Table 9. This regression uses robust standard errors, weighted observations, and controls for a host of variables including a spouse's income.<sup>36</sup> The reported coefficients are the sexual orientation dummy variables, and these variables interacted with the health index dummy. The variables of interest for sorting are the interactive terms of sexual orientation and the health index fixed effect.

 $<sup>^{33}</sup>$  It is reasonable to assume that all of these are exogenous to the institutional decision, with the possible exception of emotional disorders. Excluding this within a different index makes no effective difference in the results.

 $<sup>^{34}</sup>$  Researchers in biology and psychology have shown a relationship between facial symmetry, hip/waist ratios, and mate selection. They have also shown a correlation between these measures of beauty and health (See Zaidel *et al.* 2005). This provides support for my use of a health marker for genetic fitness.

<sup>&</sup>lt;sup>35</sup> This is more appropriate than just interacting sexual orientation with the health index because it discards the cardinality of the index and matches the framework better; however, it also makes little difference.

<sup>&</sup>lt;sup>36</sup> Where an individual reports no income an income is imputed by running a regression of actual income on age, education (categorical), white, marital status, and presence of children.

The sorting hypothesis predicts that the interactive terms should only matter for heterosexuals.<sup>37</sup>

Table 9 confirms the summary statistic findings of the first four tables: lesbians and gay men are significantly less likely to be married relative to being single. In terms of sorting, however, the Table 9 results cannot reject the null hypothesis that the health status of non-heterosexual orientations is unrelated to marriage: gays and lesbians with poor health are no more or less likely to marry than their healthy counterparts. On the contrary, health status matters a great deal for heterosexuals. Healthy heterosexuals are more likely to marry compared to unhealthy ones. This confirms the above framework. For heterosexuals there is some minimum threshold of health that is necessary to participate in marriage. Unhealthy individuals are not likely to meet this threshold, and therefore, they are less likely to marry.

The results in the bottom portion of Table 9 also support the case that heterosexuals sort differently. First, there is a strong difference between gays and lesbians in terms of cohabitation. Whereas there is no strong pattern of behavior for lesbians, gays are much more likely to be single than living together. In terms of health, the health status has no significant bearing on the common-law living status of the two non-heterosexual orientations, but there is a strong negative effect on heterosexuals. Healthy heterosexuals are more likely to be single, than living common law. Again, this supports the framework above. Unhealthy heterosexuals may be precluded from the marriage market, but they still have an interest in cohabitation in order to improve household production. Healthy heterosexuals are more likely to remain single until they marry. The results from Table 9 suggest that heterosexuals do sort differently, and specifically they sort along a dimension that matters for producing children.

 $<sup>^{37}</sup>$  In the CCHS, and on average, heterosexuals are slightly healthier than gays and lesbians, and the difference in means is statistically significant. There is no meaningful or statistical difference in the health of gays or lesbians.

## 4. Conclusion

This paper has exploited a unique data set that allows for reliable estimates of demographic characteristics of different sexual orientations, and allow for some investigation of lifestyle choices and mate sorting behavior. The analytic framework posited that individuals interested in children would have a high demand for the institution of marriage, would be less likely to engage in non-family behaviors, and would sort for a mate on dimensions that contributed to the welfare of their children. Individuals who were not interested in children have a lower demand for marriage, a higher demand for behaviors not complementary with children, and ignore mate qualities related to children when sorting. Different sexual orientations provide an exogenous shock to test this framework because only heterosexuals can cheaply procreate.

The CCHS data reveal several interesting findings. First, most non-heterosexual relationships do not involve marriage and do not involve children. Second, both non-heterosexual orientations engage in at least one activity that is not complementary to children, and this holds whether they are married or not.<sup>38</sup> These lifestyle choices may result from different preferences by these sexual orientations for such lifestyles, or they could just reflect the procreation constraint they face. Finally, the sorting behavior of heterosexuals appears different from the other two orientations. Heterosexuals care about the health status of their partner when it comes to the decision to marry or cohabitate. Despite the claims made in the press and the existing literature on gay and lesbian families that these families are all the same, the results

 $<sup>^{38}</sup>$  Not reported are a series of regressions similar to Table 5 – Table 9 where the sample is restricted to individuals married or common law. Generally speaking, the number of significant differences between the two non-heterosexual orientations and heterosexuals in the various categories is reduced. However, each of the minority sexual orientations engages in at least one activity that is not complementary to children. Thus, even when married, gay men still are more likely to have more than four sex partners in one year, lesbian and bi-sexual women are still more likely to have engaged in illegal drug use, and the like.

here suggest that the grounds for marriage are different: across different sexual orientations gays and lesbians engage in various types of behaviors that are different from heterosexuals.

# TABLE 1: Estimated Population Relationship Characteristics of Lesbian Households Weighted Observations

Characteristic	One	Two	Three	Four	Five	All
Number	15,384	41,363	12,889	6,641	$3,\!609$	80,209
% of All						
Lesbian HHs	19.2	51.2	16.1	8.3	4.5	
Average Age:						
Person 1	42.2	42.3	42.8	44.5	40.3	
Person 2		40.7	37.9	39.2	37.6	
Person 3			22.1	16.1	19.3	
Person 4				11.8	23.0	
Person 5					29.4	
# Children <18		2114	6,568	9,129	5,408	$23,\!698$
# males in HH		3944	13,331	8548	6,526	
Relationships <sup>†</sup> :						
Married		3,668	4,219	1,424	96	
% Married		8.8	32.7	21.4	2.6	12.2
% Single						41.9
Common Law		23,335	4,364	1,327	1,146	
Girlfriends		2,202	NATR	NATR	NATR	
Lesbian Mother/Child*		2,876	12,267	17,388	10,311	
Lesbian Mother/Adopted						
or Step Child*		NATR	$3,\!415$	4,084	2,157	
Lesbian Adult with Parent		399	1,234	NATR	NATR	
Room-mates*		6,428	5,888	$2,\!446$	1,061	

#### Household Size

<sup>†</sup> The CCHS tracks 35 potential relationships within a household. Here, only the major ones are reported.

\* These numbers refer to the number of *relationships* within the household. For example, a household with one lesbian mother and three children makes three mother/child relationships.

NATR = Not Able To Report, because Statistics Canada does not allow the release of counts when the sample cells are less than 5 observations.

# TABLE 2: Estimated Population Relationship Characteristics of Gay Households Weighted Observations

Characteristic	One	Two	Three	Four	Five	All
Number	52,993	67,165	$9,\!605$	10,023	3,248	143,038
% of All						
Gay HHs	37.1	46.9	6.6	7.0	2.2	
Average Age:						
Person 1	41.8	41.6	40.3	45.2	45.1	
Person 2		40.3	41.9	43.7	46.0	
Person 3			28.15	24.4	19.8	
Person 4				23.7	18.5	
Person 5					16.3	
# Children <18		747	$2,\!485$	4,357	4,012	$11,\!677$
# Females in HH		10,398	7,339	13,730	8,183	
Relationships <sup>†</sup> :						
Married		5034	517	675	592	
% Married		7.5	5.3	6.7	18.2	4.9
% Single						61.7
Common Law		32,248	655	751	NATR	
Boyfriends		3,029	NATR	NATR	NATR	
Gay Father/Child*		2024	7,260	26,067	14,483	
Gay Father/Adopted						
or Step Child*		NATR	2,344	710	NATR	
Gay Adult with Parent		234	2,794	1,500	NATR	
Room-mates*		15,022	7,639	$10,\!891$	NATR	

#### Household Size

<sup>†</sup> The CCHS tracks 35 potential relationships within a household. Here, only the major ones are reported.

\* These numbers refer to the number of *relationships* within the household. For example, a household with one gay father and three children makes three father/child relationships. In addition, when there are more than two members in the household, the marriage may not be between gays. For example, a gay child may live with married heterosexual parents.

NATR = Not Able To Report, because Statistics Canada does not allow the release of counts when the sample cells are less than 5 observations.

# TABLE 3: Estimated Population Relationship Characteristics of Heterosexual Households Weighted Observations

Characteristic	One	Two	Three	Four	Five	
Number % of All	3,453,005	8,710,690	4,014,814	4,526,272	1,966,331	
Heterosexual HHs <sup>†</sup> Average Age:	13.0	32.9	15.1	17.1	7.4	
Person 1 Person 2 Person 3 Person 4 Person 5 Sex:	55.2	52.8 50.4	44.6 40.8 21.8	$\begin{array}{c} 42.6 \\ 40.5 \\ 17.6 \\ 16.3 \end{array}$	$\begin{array}{c} 42.8 \\ 41.3 \\ 19.6 \\ 16.8 \\ 17.2 \end{array}$	
% Males % Females	$\begin{array}{c} 43.7\\ 56.3\end{array}$	$49.0 \\ 51.0$	$49.7 \\ 50.3$	50.6 $49.4$	50.4 $49.6$	
Relationships <sup>‡</sup> : Married % Married % Single Common Law Parent/Child* Parent/Adopted or Step Child* Adult with Parent Room-mates*		5,574,09964.0 1,306,429783,857 52,256209,028348,381	2,597182 .64.6 530,758 6,059,959 353,702 673,283 336,440	3,674,877 81.2 488,835 14,846,169 610,407 1,138,209 368,732	1,715,978 $87.3$ $177,632$ $9,320,403$ $446,702$ $713,772$ $160,968$	48.8 29.4

#### Household Size

<sup>†</sup> The CCHS does not sample individuals younger than 12. As a result, it estimates the population at 26,886,744.

 $\ddagger$  The CCHS tracks 35 potential relationships within a household. Here, only the major ones are reported.

\* These numbers refer to the number of *relationships* within the household.

# TABLE 4: Population Estimates of Other Household Characteristics Weighted Observations

	Heterosexual	Gay	Lesbian
Characteristic			
% of Population	98.56	.53	.30
% HH with child $< 18$	40.2	5.7	20.3
Ave. HH Income	75,753	79,549	78,166
HH Income:			
Singles	39,021	$53,\!395$	41,961
Couples	69,148	89,804	88,197
Three People	$82,\!384$	$85,\!472$	$79,\!980$
Four People	$95,\!531$	164,796	86,254
Five People	$95,\!993$	110,942	111,067
% Homeowners	76.0	55.1	66.6
% White	84.5	88.2	93.4
$\% { m Smokers}$	46.2	55.5	54.7
% High School	77.3	95.3	94.9
% No Post Secondary	13.7	12.7	12.8
% Graduate Work	10.1	15.5	15.0
% Number Sex Partners			
Past 12 months			
% One	87.3	56.9	86.1
% Two	6.7	14.6	9.3
% Three	2.9	6.2	1.5
% Four +	3.0	22.1	3.1

## Household Type

# TABLE 5 Smoking Behavior

 $Logit \ Regression$ 

Variable	Ν	Males F		emales	Full
	(1)	(2)	(3)	(4)	(5)
Gay coefficient	0.28	0.35			0.46
Gay Odds Ratio	$1.31 (3.26)^*$	$1.42 (1.74)^*$			$1.57 (2.28)^*$
Lesbian coefficient			0.14	-0.08	-0.22
Lesbian Odds Ratio			1.08	0.92	0.80
			(1.16)	(-0.33)	(-0.88)
Exogenous Controls	Yes	Yes	Yes	Yes	Yes
Other Controls		Yes		Yes	Yes
Weighted observations		Yes		Yes	Yes
Robust Std. Errors		Yes		Yes	Yes
Ν	137,918	102,278	164,185	112,266	214,644
Log Likelihood	-5,983,401	-4,604,424	-5,207,376	-3,784,770	-8,519,406
Pseudo R2	0.01	0.03	0.03	0.05	0.03

\* Significant at the 5% level. t-statistics in parentheses.

Exogenous Controls: Age, Year, White. Other Controls: Smoking, Income, Urban, Graduate Work, Obesity, Children, Marriage, and the sexual orientation health interactions.

# TABLE 6 Illegal Drug Use

 $Logit \ Regression$ 

Variable	Ν	Iales	Fe	Females	
	(1)	(2)	(3)	(4)	(5)
Gay coefficient	0.49	0.02			0.09
Gay Odds Ratio	$1.63 \\ (3.50)^*$	1.01 (0.04)			1.09 (0.20)
Lesbian coefficient			1.11	1.07	1.01
Lesbian Odds Ratio			3.05	2.92	2.74
			$(7.28)^*$	$(3.63)^*$	$(3.51)^*$
Exogenous Controls	Yes	Yes	Yes	Yes	Yes
Other Controls		Yes		Yes	Yes
Weighted observations		Yes		Yes	Yes
Robust Std. Errors		Yes		Yes	Yes
Ν	137,918	102,378	164, 185	112,266	214,644
Log Likelihood	-2,527,473	-1,927,779	-2,019,022	-1,494,947	-3, 433, 835
Pseudo R2	0.12	0.14	0.13	0.14	0.14

\* Significant at the 5% level. t-statistics in parentheses.

Exogenous Controls: Age, Year, White. Other Controls: Smoking, Income, Urban, Graduate Work, Obesity, Children, Married, and the sexual orientation health interactions.

# TABLE 7 More Than Four Sex Partners Logit Regression

Variable	Ν	Males Fe		emales	Full
	(1)	(2)	(3)	(4)	(5)
Gay coefficient	2.01	1.46			1.53
Gay Odds Ratio	7.49 $(12.52)^*$	4.31 (3.93)*			$4.63 (4.19)^*$
Lesbian coefficient	. ,	× ,	0.99	3.88	3.49
Lesbian Odds Ratio			2.71	48.5	33.02
			(2.52)	$(2.20)^*$	$(2.04)^*$
Exogenous Controls	Yes	Yes	Yes	Yes	Yes
Other Controls		Yes		Yes	Yes
Weighted observations		Yes		Yes	Yes
Robust Std. Errors		Yes		Yes	Yes
Ν	41,003	40,453	46,598	44,112	84,565
Log Likelihood	-804,617	-720,213	-342,582	-282,767	-1,035,801
Pseudo R2	0.09	0.17	0.11	0.16	0.17

\* Significant at the 5% level. t-statistics in parentheses.

Exogenous Controls: Age, Year, White. Other Controls: Smoking, Income, Urban, Graduate Work, Obesity, Children, Married, and the sexual orientation health interactions.

Variable	Full Sample
Gay coefficient	-2.70
Gay Odds Ratio	$0.06 \ (-5.12)^*$
Lesbian coefficient	-0.59)
Lesbian Odds Ratio	$0.55 \\ (-2.63)^*$
Exogenous Controls	Yes
Other Controls	Yes
Weighted observations	Yes
Robust Std. Errors	Yes
Ν	214,614
Log Likelihood	-10,402,319
Pseudo R2	0.19

# TABLE 8 Presence of Children Under 18 Logit Regression

 $\ast\,$  Significant at the 5% level. t-statistics in parentheses.

Exogenous Controls: Age, Year, White. Other Controls: Smoking, Income, Urban, Graduate Work, Obesity, Children, Married, and the sexual orientation health interactions.

	1	Males		Females	
Variable	(1)	(2)	(3)	(4)	(5)
Now Married					
Lesbian Coefficient			-2.34 $(-7.59)^*$	-3.01 $(-4.30)^*$	-3.12 $(-4.15)^*$
Gay Coefficient	-3.68* (-11.04)*	-2.95 $(-7.06)^*$	( )	()	-3.12 $(-7.15)^*$
Lesbian $\times$ Healthy	( 1101)	(	0.49 (1.32)	0.42 (0.87)	0.58 (1.12)
Gay $\times$ Healthy	1.01	0.21 (0.44)	(1.02)	(0.01)	0.48 (0.97)
Heterosexual $\times$ Healthy	(1.11) 0.47 $(13.30)^*$	(0.11) (0.19) $(4.03)^*$	$0.36 (11.69)^*$	$0.18 \\ (4.12)^*$	(0.51) (0.21) $(5.97)^*$
Common Law					
Lesbian Coefficient			0.20 (0.74)	-0.64	-0.35 (-0.60)
Gay Coefficient	-0.72* $(-3.37)^*$	(-0.72)	(0.14)	( 1.10)	(-0.00) -1.02 $(-4.14)^*$
Lesbian $\times$ Healthy	( 0.01)	( 22)	0.06 (0.23)	0.07 (0.23)	(0.14) (0.38)
Gay $\times$ Healthy	0.34 (1.40)	-0.35 (-1.24)	(0.20)	(0.20)	-0.25 (-0.96)
Heterosexual $\times$ Healthy	(-0.08) (-1.87)	(-0.26) $(-4.70)^*$	-0.18 $(-4.64)^*$	$-0.29 \ (-5.76)^*$	(-0.27) $(-7.19)^*$
Exogenous Controls Other Controls Weighted observations Robust Std. Errors	Yes	Yes Yes Yes Yes	Yes	Yes Yes Yes	Yes Yes Yes Yes
N Log Likelihood Pseudo R2	$119,901 \\ -7.737,848 \\ 0.31$	$80,223 \\ -4,914,143 \\ 0.33$	$122,463 \\ -7,661,372 \\ 0.26$	$73.071 \\ -4,534,935 \\ 0.26$	$153,294 \\ -9,564,123 \\ 0.28$

### TABLE 9: Multinomial Regressions for Marriage and Common Law Status

 $\ast\,$  Significant at the 5% level. t-statistics in parentheses.

Exogenous Controls: Age, Year, White. Other Controls: Smoking, Income, Spouse Income, Urban, Graduate Work, Obesity, Children.

Reference Group: Single.

#### References

- Ahmed, A., L. Andersson and M. Hammarstedt. "Inter- and Intra-Household Earnings Differentials among Homosexual and Heterosexual Couples." British Journal of Industrial Relations 2011.
- Allen, D.W. "An Economic Assessment of Same-Sex marriage" Harvard Journal of Law and Public Policy Vol. 29(3) Summer 2006: 949-980.
- ——. "More Heat Than Light: A Critical Assessment of the Gay Parenting Literature, 1995–2010
   ." (Simon Fraser working paper, 2011).
- ——. "What Does She See In Him: The Effect of Sharing on the Choice of Spouse." Economic Inquiry, 30 January 1992, pp. 57–67.
- Badgett, M.V.L. "The Economic Value of Marriage For Same Sex Couples" Drake Law Review 58(4), Summer 2010, pp. 1081–1120.
- Biblarz, T., and E. Savci. "Lesbian, Gay, bi-sexual, and Transgender Families" Journal of Marriage and Family 72 June 2010.
- Black, D., Sanders, S. & Taylor, L. "The economics of lesbian and gay families", Journal of Economic Perspectives 21(2), 2007.
- Blankenhorn, D. The Future of Marriage (New York: Encounter Books, 2007).
- Carpenter, C. "New Evidence on Gay and Lesbian Household Income" Contemporary Economic Policy 22(1) 2004.
- ——. and G. Gates. "Gay and Lesbian Partnership: Evidence from California" *Demography* 45(3) 2008.
- Chiappori, P., S. Oreffice, and C. Quintana-Domeque. "Fatter Attraction: Anthropometric and Socioeconomic Characteristics in the Marriage Market" (AZA Discussion Paper, No. 4594, 2010.)
- Cohen, Lloyd. "Rhetoric, The Unnatural Family, and Women's Work" Virginia Law Review 81 November 1995.
  - —. "Marriage, Divorce, and Quasi Rents: or, 'I Gave Him the Best Years of My Life'" Journal of Legal Studies XVI June 1987.
- Dnes, A., R. Rowthorn. "The Law and Economics of Marriage & Divorce" (Cambridge: Cambridge University Press, 2002).
- Gallagher, Maggie. "(How) Will Gay Marriage Weaken Marriage as a Social Institution: A Reply to Andrew Koppelman" University of St. Thomas Law Journal 2 Fall 2004.

- Golombok, S., B. Perry, A. Burston, C. Murray, J. Mooney-Somers, M. Stevens, and J. Golding. "Children With Lesbian Parents: A Community Study" *Developmental Psychology* 39(1) 2003.
- Greif, A. Institutions and the Path to the Modern Economy (Cambridge: Cambridge University Press, 2006).
- Harris, B. "An explanation for the sexual orientation wage gap" (Simon Fraser working paper, 2011)
- Jepsen, L. and Jepsen, C. "An Empirical Analysis of the Matching Patterns of Same-sex and Opposite-sex Couples" *Demography* 39(3), 2002.
- Matouschek, N., Rasul, I. "The Economics of the Marriage Contract: Theories and Evidence" Journal of Law and Economics, 51 February 2008.
- Nock, S. L. "Sworn affidavit of Stephen Lowell Nock". Ontario Superior Court of Justice. Between Hedy Halpern *et al.*. and the Attorney General of Canada *et al.*.: Court File No. 684/00, 2001.
- Oreffice, S. "Sexual orientation and household decision making. Same-sex couples balance of power and labor supply choices, *Labour Economics*, 2011, 18–2.
- and B. Negrusa "Sexual orientation and household financial decisions: evidence from couples in the United States" *Review of Economics of the Household*, (forthcoming) 2011.
- Patterson, C. "Families of the Lesbian Baby Boom: Parents' Division of Labor and Children's Adjustment" Developmental Psychology 31(1), 1995, pp. 115–123.
- Vonk, M. "One, Two, or Three Parents? Lesbian Co-mothers and a Known Donor with 'Family Life' Under Dutch Law." International Journal of Law, Policy and the Family 18 2004, pp 103–117.
- Wainright, J., S. Russell, and C. Patterson. "Psychosocial Adjustment, School Outcomes, and Romantic Relationships of Adolescents with Same sex Parents" *Child Development* November 2004.
- Williams Institute. "Census Snapshot: 2010 Methodology adjustment procedures for same-sex couple data." At http://services.law.ucla.edu/williamsinstitute/ pdf/AdjustmentProcedures.pdf, accessed August 29, 2011.
- Zaidel, D.; Aarde, S.; Baig, K. "Appearance of symmetry, beauty, and health in human faces". Brain and Cognition 57 (3), 2005: 261263

## Appendix TABLE 1A: Definitions of Variables

Variable Name		Definition
Gay	=	1 if respondent self-identified as gay.
Lesbian	=	1 if respondent self-identified as lesbian
Bi-sexual male	=	1 if respondent self-identified as male bi-sexual
Bi-sexual female	=	1 if respondent self-identified as male bi-sexual
Age	=	age in years.
Year	=	year of survey, either 2005, 2007, 2008, or 2009.
White	=	1 if respondent was white.
Smoking	=	1 if respondent was a daily smoker, and had smoked more than 100 cigs. in life.
Income	=	self reported income of respondent.
Urban	=	1 if respondent lived in urban area.
Graduate Work	=	1 if respondent had completed graduate degree.
Obesity	=	1 if body mass index was greater than 30.
Children	=	1 if any child in household was less than 18.
Health	=	1 if respondent had no serious health problems.
Alcohol	=	1 if alcohol consumed less than once per month.
	=	2 if alcohol consumed once per month.
	=	
	=	7 if alcohol consumed once per day.
Drug Use	=	1 if the respondent has used marijuana, cocaine,
		speed, ecstasy, hallucinogens, glue, or heroin
Health Index	=	1 if person suffered from vision, speech, hearing,
		dexterity, cognition, mobility, or emotional disorders.