

Counting same sex couples in France from a new survey on families

Laurent Toulemon, Elisabeth Morand, and Nicolas Razafindratsima, 15 November, 2013

Paper abstract for 2014 European Population Conference,

Theme: Families and households. Convener: Maria Rita Testa

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Short abstract

Enumerating same-sex couples is a challenge for official statistics, as well as studying the demographics of these couples is a challenge for research. Despite these couples gained in many European countries the right to an official recognition through a specific legal status or the right to marriage, their identification in censuses and surveys is very difficult. Even if the description is restricted to coresident couples enumerated in the same household, census data based on cross-tabulation of individual answers to questions on couple situation and sex do not suffice, because a very limited number of errors in the sex of one or the other member of different-sex couples leads to a strong relative proportion of “false same-sex couples”. In order to avoid such errors, it is necessary to include specific categories in the “couple” question and/or to explicitly ask a question about the sex of the partner.

This was done in France for the first time in a one-percent survey, the Family and dwellings survey, which took place within the 2011 census, allowing a precise enumeration of same-sex couples. As the sampling unit was the enumerator zone, the sample suffers from large cluster effects. Taking these effects into account is necessary to estimate the variance of the counts. Furthermore, the sample can be used as a training sample for identifying same-sex couples among households included in the census, based on the information present in the census. Using data mining methods, it is then possible to build rules from the sample and to use them to infer counts of same-sex couples in the whole population. We will compare the estimates based on the survey itself, the 2011 yearly census survey, and complete census data based on five yearly waves.

Note: the paper could also fit in the “Data and method” Theme.

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I. Introduction

Enumerating same-sex couples is a challenge for official statistics, as well as studying the demographics of these couples is a challenge for research (Smallwood and Smith, 2011). Despite these couples gained in many European countries the right to an official recognition through a specific status or the right to marriage, their identification in censuses and surveys is very difficult. This paper presents new estimates of same-sex couples in France, based for the first time on a large-scale survey including explicit questions allowing identifying without errors same-sex couples included in the same household in the census.

II. Background

In countries where no population register exists, data on small-scale populations like same-sex couples are based on the census and large scale surveys, let alone specific surveys on convenient samples or volunteers (opt-in surveys). The issue of including a question in census forms is complex, as some respondents may object to a question that include same-sex, leading to higher non-response (Smallwood and Smith, 2011). Several countries include same-sex categories in the question on matrimonial status (Germany, United Kingdom, Czech Republic), others explicitly include same-sex couples in the question on couple relationship in the individual form (Portugal) (Festy, 2012).

Even if the description is restricted to coresident couples enumerated in the same household, census data based on cross-tabulation of individual answers to questions on couple situation and sex do not suffice, as a very limited number of errors in the sex of one or the other member of different-sex couples leads to a strong proportion of “false same-sex couples” among identified “same sex-couples” (Toulemon et al. 2005; Banens 2013; Cortina and Festy 2013). In order to avoid such errors, it is necessary to include specific categories in the “couple” question and/or to explicitly ask a question about the sex of the partner. The issue is less a problem in population registers, where errors on the sex of a person are much less common, due to updates and validations of the information.

III. Data

A specific question was included in France in 2011, for the first time in a one-percent survey conducted within the census, the Family and dwellings survey, allowing a precise enumeration of same-sex couples. In France the census is currently made of yearly waves, each wave including 14% of the population (20% in the small municipalities of less than 10,000 inhabitants, who are included one fifth year in the census, and 8% in the large municipalities, where a 40% sample is divided in five parts, each part being surveyed each

fifth year (Desplanques 2008). The survey on Family and dwellings was conducted by the national statistical institute (*Institut de la statistique et des études économiques*, Insee), and Ined initiated the survey and participated in its preparation (Rault et al, 2010). In each household, a 4-page household form and as many 2-page individual forms are distributed, and collected some days later by the enumerator. The 2,300 enumerators participating in the Family and dwellings survey distributed a specific additional 4-page form to each person of a specific sex; one third of enumerators distributed “male bulletins” to all adult men in the households they enumerated, two thirds distributed “female bulletins” to all women living in their households¹. The forms are identical for both sexes, and include a question “do you currently have a partner?”, including those not living in the same dwelling (question 3 in the “first extract of the form” below), followed by several questions on the partner, among which “Is your partner... a man? ... a woman?” (in the “male bulletin” the answers are written in the inverse order, so that different-sex couples can tick the first answer, see question 5 below).

First extract of the Family and dwelling survey form (female bulletin)

3 Do you currently have a partner?

- Yes who lives in the dwelling..... 1
- Yes, who lives elsewhere 2
- No, but you have had a partner in the past 3
- No, you have never had a partner 4

Go to question 4
Go to question 10
Go to next page, question 11

Tell me about your partner

4 What is his/her date of birth?
day month year

5 Is your partner : A man? 1 A woman? 2

6 When did your relationship with your partner begin?
month year

7 Have you contracted a civil partnership? • Yes..... 1 → When?
(even if you subsequently got married) • No..... 2 month year

8 Are you married to each other? • Yes..... 1 → When?
 • No..... 2 month year

9 Does your current partner live in this dwelling:

- All the time (or almost)..... 1
- Mainly at week-ends and during the holidays..... 2
- Mainly on week days 3
- A few months in the year 4
- Part of the time, intermittently 5
- Rarely or never 6

As the sampling scheme included all the adults of a given sex living in a household, both partners of coresident same-sex couples were asked to fill a form. Furthermore, the sex of each respondent could be checked from the individual form, as well as the date of birth of each partner (see “Extract of the census form” below). For each same-sex couple, the sex and date of birth of both partners were thus checked, in order to “clean” the file from “false sex-sex partners”. We use the answers to the census question “Are you living in a union?” as an additional check, but two answers “yes” are not a necessary condition to be considered as a couple, because we consider the answers to the survey to be more reliable.

¹ An English version of the census forms is available at http://lili-efl2011.site.ined.fr/en/the_survey/census/, while the survey additional forms are available at http://lili-efl2011.site.ined.fr/en/the_survey/.

Extract of the census form

1 Sex Male 1 Female 2

2 Date and place of birth
 Born :
 day month year

7 Are you living in a union ? Yes 1 No 2

8 What is your legal marital status ?

- Single (*never legally married*)..... 1
- Married (*or separated but not divorced*)..... 2
- Widowed 3
- Divorced 4

Four types of unions will be considered in the paper: male and female couples, with or without children. The definitions of children and couples will be based on individuals living in the same household, for whom the information on both partners could be cross-checked with the census. The survey form includes precise questions on own children and partner children (for different-sex couples), see “Second extract...” below.

Second extract of the Family and dwelling survey form (female bulletin)

Your children and those of your current partner

11 Have you had any children? (including adopted or deceased children)

- Yes.... 1 →
- No..... 2

• How many?
 • How many of them live in this dwelling? (even if only part of the time)

12 Has your current partner had children in a previous union? (including adopted or deceased children)

- Yes.... 1 →
- No..... 2

• How many?
 • How many of them live in this dwelling? (even if only part of the time)

If you have never had children or if none of your partner's children live in this dwelling → Got to question **16**

The children who live in this dwelling, even if only part of the time

13 Please give details about each of your children and your partner's children who live in this dwelling, even if only part of the time (if you have more than six children who live in this dwelling, please use another form)

Child's first name	Sex Male or Female		Year of birth	Are you his/her mother?		Is his/her father your current partner		If the child was adopted	What proportion of the time does he/she live in this dwelling?			Does he/she a Several an	
	M	F		Yes	No	Yes	No		Age at adoption	All the time	Half the time or more	Less than half the time	No
a	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="text"/> years	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 1	<input type="checkbox"/>
b	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="text"/> years	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 1	<input type="checkbox"/>

Each region (22 in metropolitan France, the survey did not take place in overseas *départements*) was considered as a strata, the capital region being separated into Paris (which was over-sampled) and the remaining areas. As the sampling unit of this survey was the enumerator zone, the sample thus suffers from large cluster effects: the 360,000 respondents (120,000 men and 240,000 women) come from 2,300 enumerators areas (a census area typically includes 180 households and 410 inhabitants, men, women and children altogether). Taking these effects into account is necessary to estimate the variance of the counts. A

preliminary estimate of 100,000 same-sex couples has been published, with 116,000 men and 82,000 women living in a same-sex couples, among whom 98,000 men and 70,000 women were living with a same-sex partner living in the same household (Buisson, Lapinte 2013), but no variance estimate was provided.

IV. Methods

These estimates were based on no more than 499 couples (1,366 before cross-checking the sex and date of birth of both partners). As the sample is representative, a Poisson estimate of the variance ($V=N$) leads to a confidence interval of [445;455], meaning a relative uncertainty of plus or minus 9% in the total number of same-sex couplers. But two reasons may lead to much larger confidence intervals. First, same-sex couples are somehow segregated in the country (moving to large cities and, in these cities, to some specific neighbourhoods), and the estimate must suffer from a cluster effect. Second, the sample is extracted from a yearly wave of the census, and some post-stratification was added in order to compensate for non-response, at the municipality level (7% of municipalities refused to participate) or at the individual level (16.2% of the individuals who participate in the census and were eligible for the survey in the household did not fill the survey form). A post-stratification was run in order to align the sample structure for several variables: sex and age, region, number of children living in the family, sex and family situation (child, parent, member of a couple, etc.), country of birth (France or elsewhere), with additional specific alignment by region (level of education, grouped age and family situation for each sex).

Our first aim will thus be to provide accurate estimates, with their variances, of the total number of same-sex couples, as well as counts for each of the four types of same-sex couples (male or female, with or without children). The sampling variance will be estimated, using precise information on the enumerators' areas recently provided to us by Insee.

Furthermore, the sample can be used as a training sample for identifying same-sex couples among households included in the census, based on the information present in the census. More specifically, a category "friend" can be used by same sex-couples to be identified in the census (Festy, 2007) Using data mining methods, it is then possible to infer from the sample rules to estimate for each household the probability that it includes a same-sex couple, and to use these rules on a larger dataset to estimate counts of same-sex couples in the whole population. We will compare the estimates based on the survey itself, the 2011 yearly census survey, and the complete census data based on five yearly waves, in order to check whether our sample is somehow biased, and to make it possible to use census information to more accurately study same sex couples, from the whole census data files.

If the data appear to be robust, some more precise analyses will be conducted on civil status (same sex couples could not get married in 2011, but could sign a contract, named *Pacte civil de solidarité*) (Bailly and Rault, 2013), as well as to some sociodemographic features of these couples.

V. Results

We just received the information on sampling areas from the institute of statistics and reconstitute the census areas. We thus cannot provide results yet, but the final paper will be ready far before the conference.

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