In the name of who?

Shaping public opinion about homosexuals in Brazil

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Introduction

Do deputies of Brazil think the same as voters do? Representative democracy has its own problems, but *representation* should not be one; unfortunately, it is. We elect people for the office thinking they will take our issues into consideration, but, sometimes, it does not happen. So, this article tries to investigate if this is true in Brazil about one specific topic: lesbians, gays, bisexuals and transsexuals (LGBTs) being under-represented (or not) in the country. It is an important question about the quality of democracy.

The literature discusses the way representation is treated on democracies when it has to understand how minorities have been taken as an important issue for its quality. There are those who defend minorities should be included - physically - in Congress, and so their problems will be more discussed, and there are those who found out that what is really important is the party position in the ideological scale. Also, religion has been an important concern when legislators choose policies. Therefore, I built, based on theory, four hypotheses to be tested: first, since Brazil does not have a LGBT representation, the public opinion is the same as Congress (we do not elect LGBTs for the office), thus, Brazil might be a homophobic country, because we choose not to take this issue into an agenda. On the other hand, however, Congress is filled with differences in ideologic terms, so this matter might be defended by the left, and fought by the religious right.

The empirical strategy revolves around using a Descriptive Analysis and a Regression Model, whereupon, the first tries to see if the opinion of the public about same-sex marriage corresponds to the opinion of the deputies in Brazil. The second technique is a try to explain if public opinion is conditioned to the ideology and the religious of the respondent. I use two databases for that: one survey about the deputies opinion and the second about public opinion. Besides that, I chose to use some data available by the government of Brazil to see the situation of the LGBT community.

The results, unfortunately, did not corroborated the part of the hypotheses, but they had some implications for the presented study and for others. There is something very particular about Brazilian culture that we have to try to investigate and understand how their opinions are shaped; in other words, to know how they choose certain politics (and rights) instead of others.

This paper is an attempt to measure the quality of representative democracy in Brazil through one particular under-represented - at least in political terms - group. There are not many works about this issue in Brazil that puts LGBTs and politics, combining factors of public and deputies opinion, so I am trying to fill this gap. This is relevant to understand our culture and also to know how legislators choose one policy instead of another.

Accordingly, this article is divided in five sections: first, I present the theories about this topic, second my argument with the hypotheses I test; third, the data and research design explored here, followed by the results and findings. Lastly, the implications of the study and the main conclusions. Also, in the end I present a brief appendix about the LGBT situation in Brazil

Literature Review

The idea of representation has been debated by two concepts: *standing for* and *acting for* (Pitkin, 1972); they both understand political representation in a democracy through how politicians behave about their position (acting for) or by who they are (standing for). In other words, the term means to act in the name of who elected the candidates (Carreirao, 2015), that is, their job is only to work for the people's interest.

The presence of minorities is an important issue on democracies (Miguel, 2000), once they are part of the society, nevertheless, they do not have the strength needed to make a difference on politics, due to the fact that, in general terms, the numbers on minorities are still very low, despite evidences that indicates that in politics there are no differences between gender and/or sex (Seltzer, Newman & Leighton, 1997).

Political representation of women has been a big concern for democracies in the world, and this is a powerful tool to measure the quality of democracy in those countries. Furthermore, gender and politics are not only a concern of politicians, but also an object of study of Political Science and they have been analyzed by many scholars (Norris & Lovenduski, 1989; Seltzer, Newman & Leighton, 1997; Chaney, 2006; Childs & Krook, 2009; Lawless & Fox, 2012; Ballington & Kahane, 2014; Erzeel & Celis 2016). The LGBT community, however, has not been very developed in science and politics, despite several works (Alexander, 2002; Haider-Markel, 2011; Reynolds, 2013; Sampaio & Germano, 2014).

Being part of a group does not necessarily increase the chances of representation, but it is known that the chances for that happens are higher (Haidermarkel, 2000). Having black people and women on Congress are a good thing for democracy and for the minority represented by the group, of course it does not guarantee that their interests will be attended. Furthermore, there are evidences that show gender and race are not particularly reasons for choosing a policy instead of another: it actually depends on the ideology of the party to select what is important and what is not (Frederick, 2011). LGBT agenda can also be a strategy for political benefit: once legislators talk and do an effort to include this issue on their platforms, people will see them as politicians who are working for democracy, inclusiveness and equality (Reynolds, 2013).

As it happens to women, when there are legislators that represent the community, laws about sexual orientation are more likely to have a space on national Congress (Reynolds, 2013). Moreover, democracies with more inclusiveness work better at making a stable and fair society (Norris, 2008). In Brazil, women have gained gradually more power on politics, but it still stands between 10% of the Congress [1], although there are more than 50% of female electorate [2]. On LGBT, the scenario is worse: the first Senator openly gay was elected only in 2018, Fabiano Contarato from REDE party [3]. In other words, it might be indicative of how Brazilians see public policy: if voters do not elect LGBT people for the office, it means that they are not very worried about this particular community.

However, if ideology matters, it can be expect that conservative people to reject more the idea of having policies about LGBT, due to the fact that they are, in the political spectrum, close to the right, once they value tradition, order and moral; on the other hand, the left is more liberal, at least in social terms, thus, terms such as *progressive, equality and justice* are in the forefront of their ideas (Frederico, Napier & Jost, 2009).

Religion also seems to be a great determinant (Heywood, 2003) of preferences for policies about LGBT, after all, religious person denies the advance of minorities in general (Ferreira, 2016), once they want to maintain order and tradition, like the right.

Argument

Representation is one of the main concerns in a democracy, but if it does not fulfill the duty, public opinion will decrease on a government. It is a questionable topic, after all, that is why the vote is for. Furthermore, such as women, LGBTs have been under representation in political terms in Brazil, due to the fact that there are few politicians openly homosexuals.

Theory in Political Science (discussed above) shows that for an effective representation of minorities, it is necessary for Congress to have LGBT people talking about policies on their favor. If there are not, it means society does not elect them, and so it prefers not to talk about policies for them, thus Congress has the same

[1] More information available here: http://archive.ipu.org/parline-e/reports/2043_A.htm Accessed in 12/22/2018.

[2] More information available here: http://www.tse.jus.br/imprensa/noticias-tse/2018/Marco/mulheres-representam-52-do-eleitorado-brasileiro accessed in 24/12/2018.

[3] More information about Contarato available here: https://especiais.gazetadopovo.com.br/eleicoes/2018/candidatos/es/senador/fabiano-contarato/ Accessed in 12/22/2018.

opinion as voters (they are elected by them, after all). Also, Congress and society might be homophobic, once they choose not to talk about them.

Hypothesis 1: in Brazil, public opinion about LGBT people is the same as Congress.

Hypothesis 2: Brazil is a homophobic country.

On the other hand, parties determine policies, and theory says the left is more worried about minority than the right, which could mean that ideology matters. Besides that, religion also seems to be a determinant factor on policy positions.

Hypothesis 3: ideology explains policy positions about LGBT.

Hypothesis 4: religion is a determinant factor.

The figure 1 below summarizes the theory presented here.

```
# To Figure 1
# First require package
library(DiagrammeR)
# Second set the theory
Theory <- DiagrammeR("graph TB;
           A(Do deputies of Brazil think the same as voters do?)-->B(Democracy representation);
                     B-->C(Hypothesis 1: in Brazil, public opinion about LGBT people is the same as Cong
                     B-->D(Hypothesis 2: Brazil is a homophobic country.);
                     B-->E(Ideology and religion matters.);
                     E-->F(Hypothesis 3: ideology explains policy positions about LGBT.);
                     E-->G(Hypothesis 4: religion is a determinant factor.)
                     ")

Theory
```

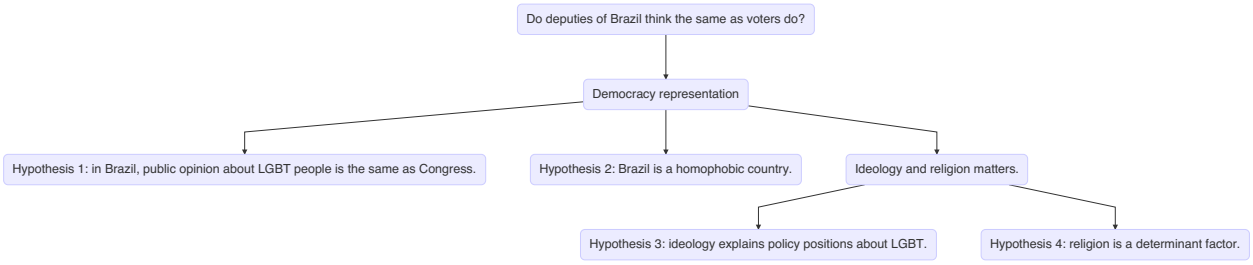


Figure 1 - Theory

Research Design and Data

The argument is tested using two databases: the first about the deputies in Brazil available from the *Observatorio de Elites Parlamentarias en America Latina (PELA)* [4] over the year of 2010, and the second about public opinion available from the *Latin American Public Opinion Project (LAPOP)* [5] also over the year of 2010. This year was chosen because it is the most recent period available in the databases with the variables I need. Due to the fact that my research question involves two objects (deputies and public opinion), these two databases are very important, first for analyzing the opinion of the deputies and public, second for understanding if their position is conditioned by other characteristics, such as ideology and religion.

In methodological terms, the variable of interest (or dependent variable) is their position (in favor or against) the union of same-sex couples (*Same-sex civil union*), which will be described in a first moment (for hypotheses

[4] More information of how to get data here: http://americo.usal.es/oir/elites/index.htm Accessed in 12/26/2018
[5] Data available here: https://www.vanderbilt.edu/lapop/ Accessed in 12/26/2018

1 and 2), and then, to know if deputies and public opinion is associated, I chose to do a *Descriptive Analysis*, because their answers to the survey will be in plots that can be used to analyse them.

To test hypotheses 3 and 4, a regression model is necessary, once I want to explain how they stand on this question. So the model is presented below:

Opinion about same-sex marriage = ideology + frequency of religious worship.

To summarize, my two objects of analysis are (1) deputy interviewed by PELA, and (2) person interviewed by LAPOP; the year is 2010 and the techniques are Correspondence Analysis and Regression. The dependent variable is *opinion about same-sex marriage*; the model has two independent variables: *ideology* and *frequency of religious worship*.

Findings/Results

LAPOP Data

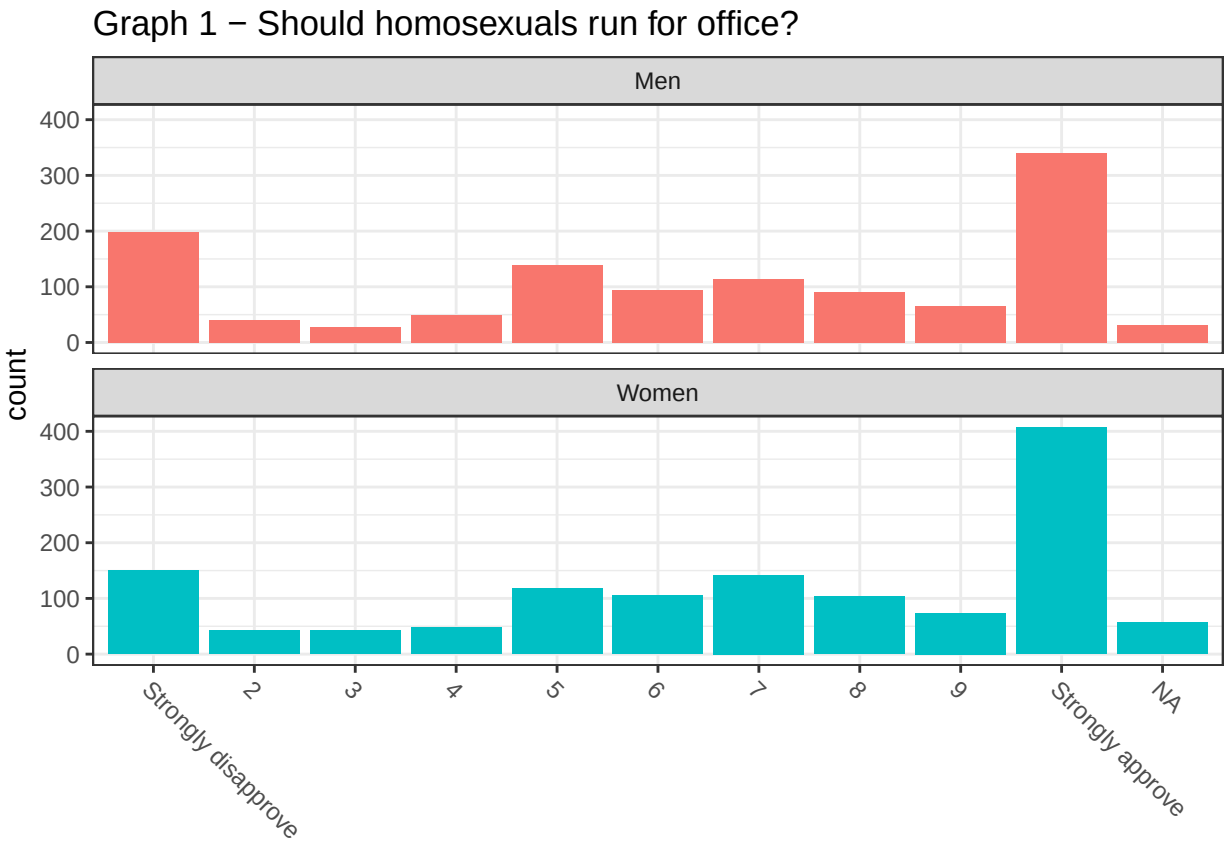
LGBT

An important question[6], first, is to know if Brazilians would agree that a homosexual run for office on elections and, fortunately, LAPOP (public opinion) has that on its survey: *do you approve or disapprove that homosexuals run for office?*[7], it is a scale from 1 to 10, which the first means that they *strongly disapprove*, and the second that they *strongly approve*. The descriptive data on graph 1 does not show differences among men and women, both seem to have the same opinion. However, when this data is crossed in a chi square test, as shown on table 1, the p-value is significant (0.013) and 9 degrees of freedom.

```
library(ggplot2)
library(haven)
LAPOP_2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
attach(LAPOP_2010)
LAPOP_2010 <- data.frame(q1 = factor(q1, labels = c("Men", "Women")),
                         d5 = factor(d5, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                                    "6", "7", "8", "9", "Strongly approve")))
theme_set(theme_bw())

ggplot(LAPOP_2010, aes(d5)) + geom_bar(aes(fill=q1)) +
  facet_wrap(~ q1, ncol = 1) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  theme(axis.title.x = element_blank()) +
  ggtitle("Graph 1 - Should homosexuals run for office?") +
  theme(legend.position="none")
```

[6]The survey of 2010 is available here: http://datasets.americasbarometer.org/database/files/17600748482010_Brasil_Questionnaire_Portuguese.pdf

[7]Question code is *d5*.



Graph 1 is divided by sex and it is noticeable that, first, the majority of men and women do not have a problem about homosexuals running for office, but the data is extensive splitted by 10 groups, which could be an indicative of matter. Comparing the first and the last clusters, in total, 499 people strongly disapprove, while 1155 strongly approve that homosexuals run for office.

```
library(haven)
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
chi <- chisq.test(lapop2010$d5, lapop2010$q1, correct = FALSE)
chi
```

```
##
##  Pearson's Chi-squared test
##
## data:  lapop2010$d5 and lapop2010$q1
## X-squared = 20.863, df = 9, p-value = 0.01327
```

```
library(knitr)
chiTable <- data.frame(Coefficients = c("X-Squared", "P-Value","df", "N"),
                 Value = c(20.863, 0.013, 9, 2482))

kable(chiTable, caption = "Chi-Square")
```

Table 1: Chi-Square

Coefficients	Value
X-Squared	20.863
P-Value	0.013
df	9.000

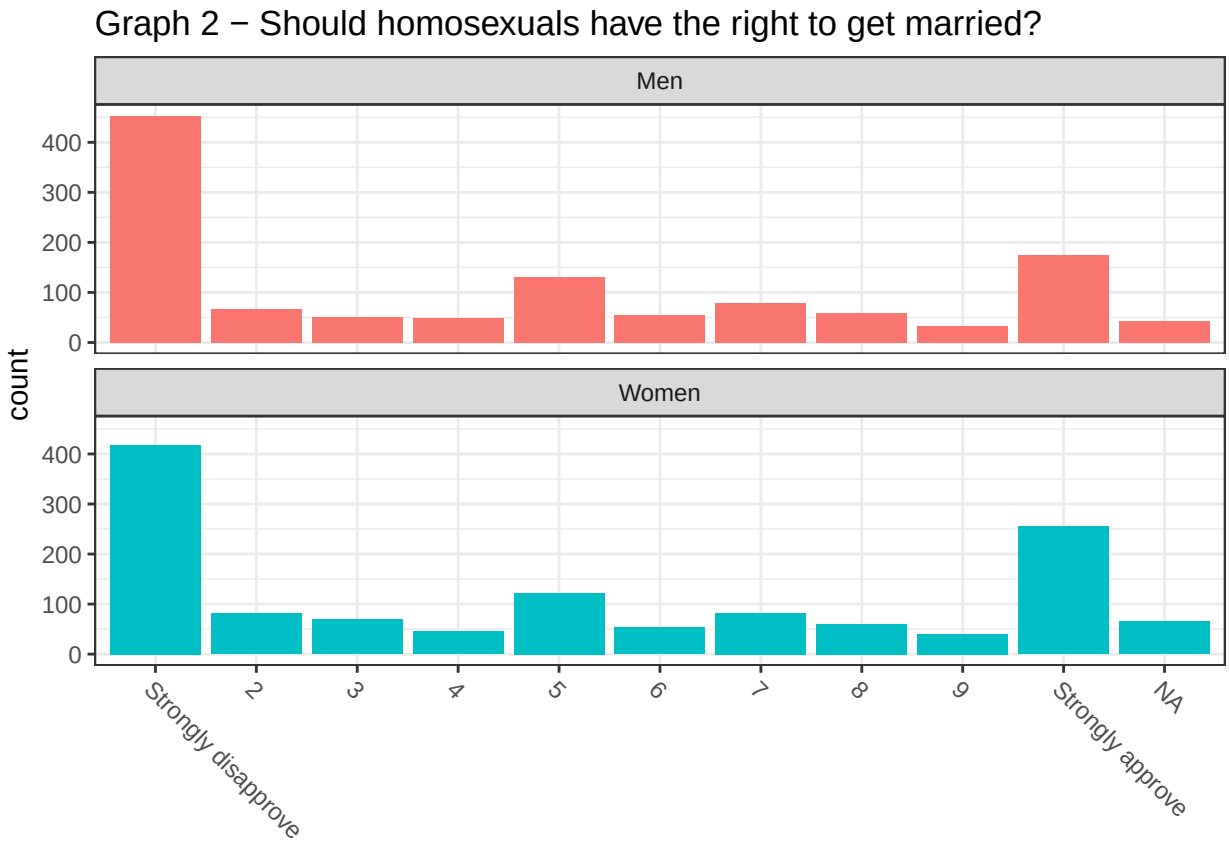
Coefficients	Value
N	2482.000

Table 1 is a chi-square test whereupon I used the variables described on graph 1; this test was chosen due to its utility to compare different groups, which, in this model is between men and women. As seen above, p-value was significant with 9 degrees of freedom, which means the null hypothesis is rejected and there is a relationship between gender and agreement about homosexuals running for office.

Despite that, Brazilians seem to have something against the civil union of people of the same sex. According to the data, the majority of men and women *strongly disapprove* same sex civil union [8]; as graph 2 shows, women are more sympathetic with this idea than men, but when we go to the number of disagreement, it increases on both sexes.

```
library(ggplot2)
library(haven)
LAPOP_2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
attach(LAPOP_2010)
LAPOP_2010 <- data.frame(q1 = factor(q1, labels = c("Men", "Women")),
                         d6 = factor(d6, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                                    "6", "7", "8", "9", "Strongly approve")))
theme_set(theme_bw())
ggplot(LAPOP_2010, aes(d6)) + geom_bar(aes(fill=q1)) +
  facet_wrap(~ q1, ncol = 1) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  theme(axis.title.x = element_blank()) +
  ggtitle("Graph 2 - Should homosexuals have the right to get married?") +
  theme(legend.position="none")
```

[8] Question code: *d6*



Religion

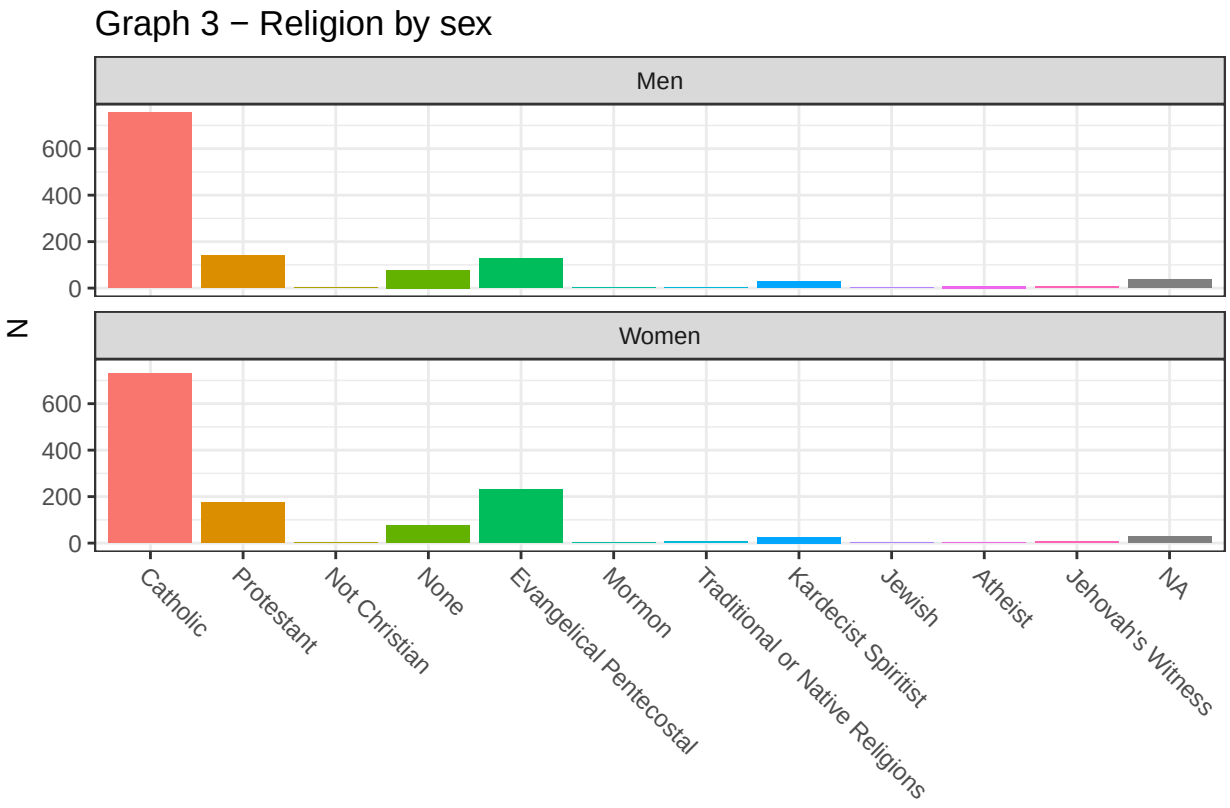
There are some important questions about the religious profile of Brazilians, which I chose to describe them first. The questions on the survey are: *what is your religion, if you have one?* [9]; and *meetings* (frequency) *of any religious organization?* [10]

As the data shows, there are more catholics in Brazil, followed by evangelical pentecostal and protestants (graph 3). Also, the graph below shows that both men and women go on the same way. Despite that, catholics are the cluster that go least to the church, as we can see on graph 4; protestants and pentecostals attend more to the cults. Still, the majority, independent of religion type, think it is very important for them (graph 5) or has some importance on their lives[11].

```
# Graph 3
# Load packages
library(haven)
library(ggplot2)
# Open data
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
theme_set(theme_bw())
attach(lapop2010)
# Set the data to a frame
lapop2010 <- data.frame(q1 = factor(q1, labels = c("Men", "Women")),
                        q3c = factor(q3c, labels = c("Catholic", "Protestant", "Not Christian", "None",
                                                     "Evangelical Pentecostal", "Mormon",
                                                     "Traditional or Native Religions",
```

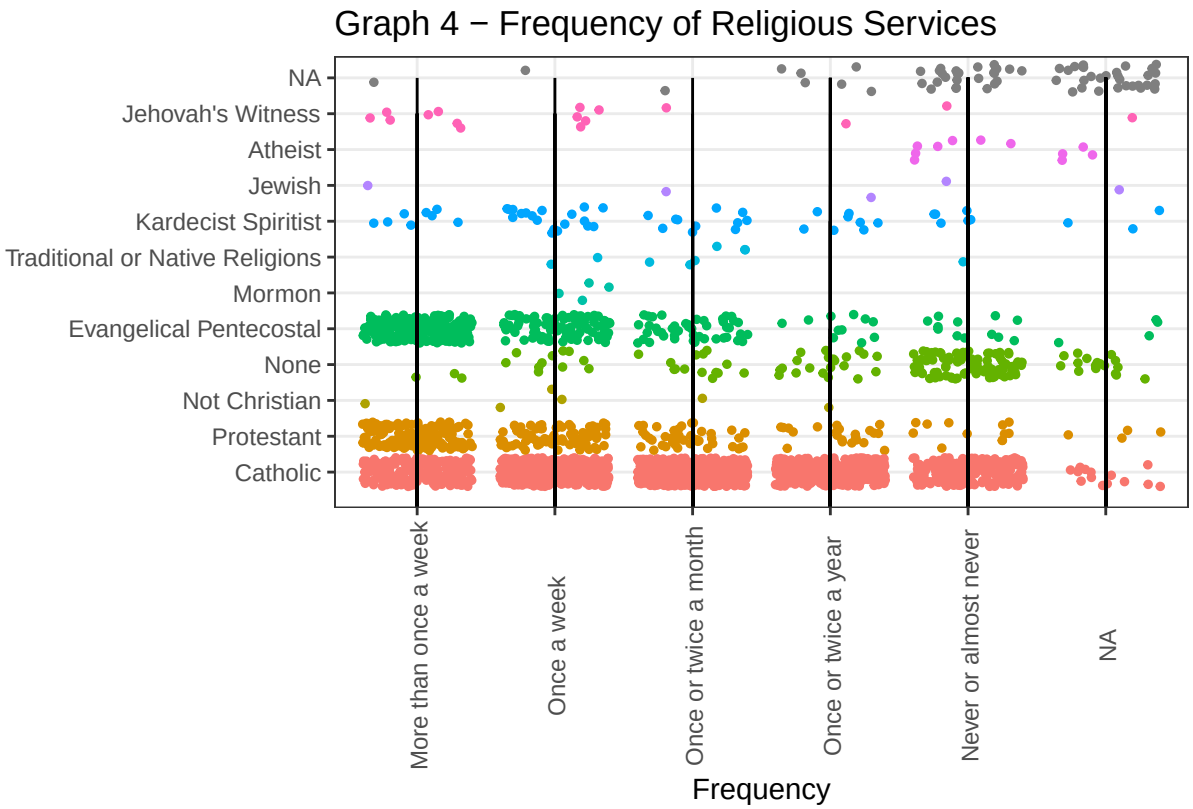
[9] Question code is: *q3c.*
[10] Question code is: *q5a.*
[11] Question code is: *q5b*

```
                                                    "Kardecist Spiritist", "Jewish", "Atheist",
                                                    "Jehovah's Witness")))
#Build graph
ggplot(lapop2010, aes(q3c, fill=q3c)) + geom_bar() +
  facet_wrap(~ q1, ncol = 1) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  theme(axis.title.x = element_blank()) +
  labs(title="Graph 3 - Religion by sex",
          caption="Source: LAPOP",
       x="Religion",
       y="N") +
  theme(legend.position="none")
```



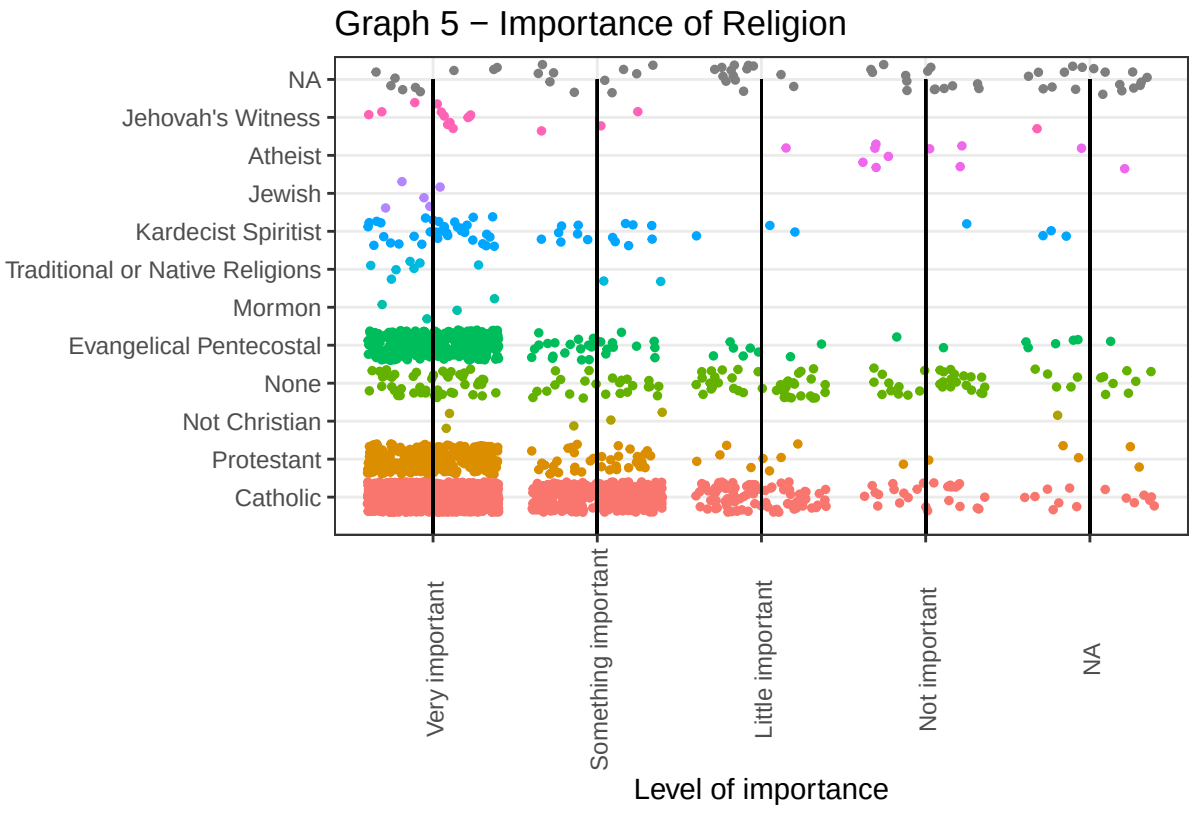

```
# Graph 4
# Load package
library(haven)
library(ggplot2)
# Open data
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
# Set the data to a frame
lapop2010 <- data.frame(q5a = factor(q5a, labels = c("More than once a week", "Once a week", "Once or tw
                                                    "Once or twice a year", "Never or almost never")),
                        q3c = factor(q3c, labels = c("Catholic", "Protestant", "Not Christian", "None",
                                                    "Evangelical Pentecostal", "Mormon",
                                                    "Traditional or Native Religions",
                                                    "Kardecist Spiritist", "Jewish", "Atheist",
                                                    "Jehovah's Witness")))
```

```
# Build graph
ggplot(lapop2010, aes(x=q5a, y=q3c)) +
  geom_jitter(size=1, aes(col=q3c)) +
  geom_segment(aes(x=q5a,
                   xend=q5a,
                   y=0,
                   yend=q3c)) +
  labs(title="Graph 4 - Frequency of Religious Services",
       caption="Source: LAPOP",
       x="Frequency",
       y="") +
  theme(legend.position="none") +
  theme(axis.text.x = element_text(angle=90, vjust=0.6))
```




```
# Graph 5
# Load packages
library(haven)
library(ggplot2)
# Open data
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
theme_set(theme_bw()) # For the white background of the graph
# Set the data to a frame
attach(lapop2010)
lapop2010 <- data.frame(q3c = factor(q3c, labels = c("Catholic", "Protestant", "Not Christian", "None",
                                                     "Evangelical Pentecostal", "Mormon",
                                                     "Traditional or Native Religions",
                                                     "Kardecist Spiritist", "Jewish", "Atheist",
```

```
                                                    "Jehovah's Witness")),
                      q5b = factor(q5b, labels = c("Very important", "Something important",
                                                   "Little important", "Not important")))
ggplot(lapop2010, aes(x=q5b, y=q3c)) +
  geom_jitter(size=1, aes(col=q3c)) +
  geom_segment(aes(x=q5b,
                   xend=q5b,
                   y=0,
                   yend=q3c)) +
  labs(title="Graph 5 - Importance of Religion",
       caption="Source: LAPOP",
       x="Level of importance",
       y="") +
  theme(legend.position="none") +
  theme(axis.text.x = element_text(angle=90, vjust=0.6))
```

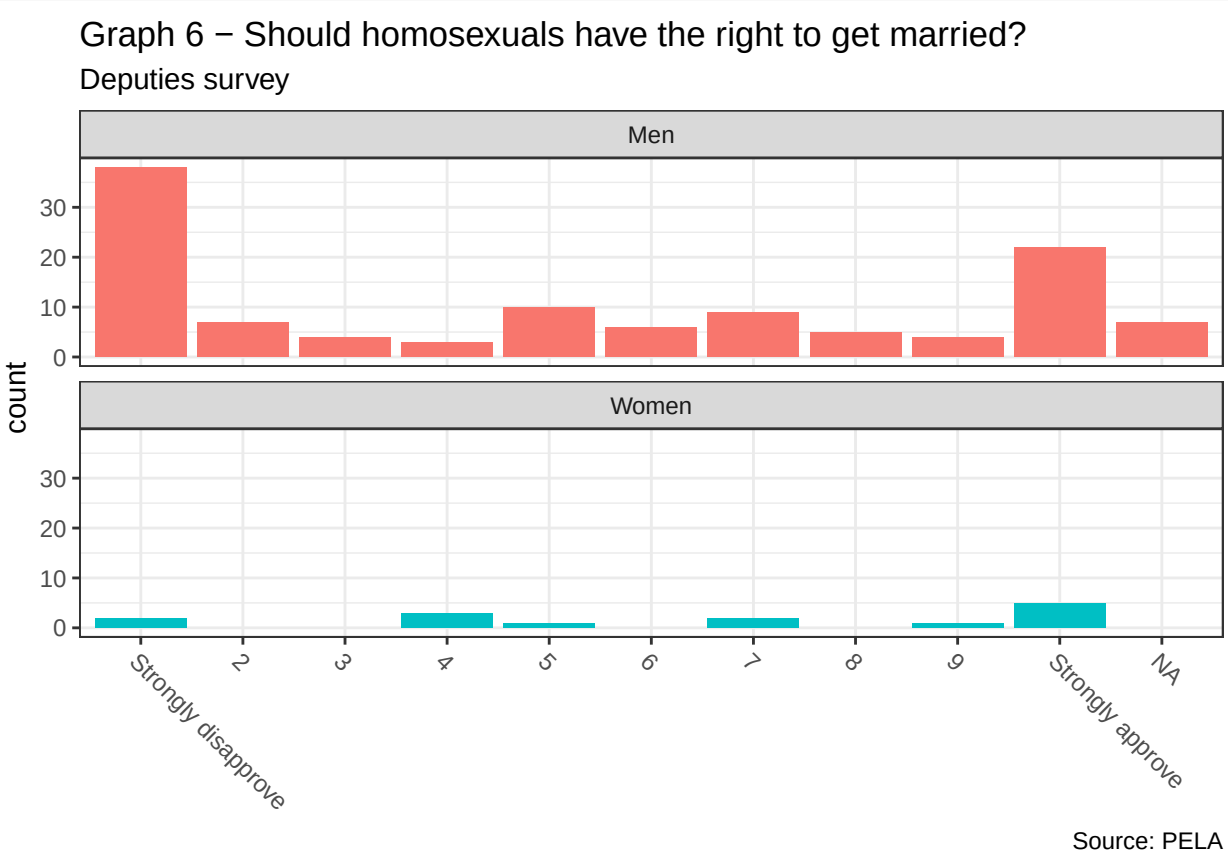


PELA Data

LGBT

On the survey about the deputies in Brazil, there is only one question focused on LGBTs in Brazil: if they disapprove or approve homosexuals the right to get married. Although the number of female deputies is way too low, they approve more with same sex marriage than man; male deputies, however, *strongly disapprove* that homosexuals have this right. Graph 6 details those numbers better.

```
library(haven)
library(ggplot2)
pela2010 <- read_sav("~/Downloads/Analise de dados/CEL_UFMG_Banco_Elites_Nacionais_Deputados_Federais_2
attach(pela2010)
pela2010 <- data.frame(SOCD4 = factor(SOCD4, labels = c("Men", "Women")),
                       VAL1 = factor(VAL1, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                                      "6", "7", "8", "9", "Strongly approve")))
theme_set(theme_bw())
ggplot(pela2010, aes(VAL1)) + geom_bar(aes(fill=SOCD4)) +
  facet_wrap(~ SOCD4, ncol = 1) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  theme(axis.title.x = element_blank()) +
  labs(title = "Graph 6 - Should homosexuals have the right to get married?",
       subtitle = "Deputies survey",
       caption = "Source: PELA") +
  theme(legend.position="none")
```



Statistically, the chi-square test, on table 2, indicates that there are no differences among female and male deputies, since p-value is 0.078, with 9 degrees of freedom, so the null hypothesis can not be rejected, which means these variables are not associated.

```
chi <- chisq.test(pela2010$SOCD4, pela2010$VAL1, correct = FALSE)
chi
```

```
##
##  Pearson's Chi-squared test
##
## data:  pela2010$SOCD4 and pela2010$VAL1
```

```
## X-squared = 15.493, df = 9, p-value = 0.07824
```

```
library(knitr)
chiTable <- data.frame(Coefficients = c("X-Squared", "P-Value","df", "N"),
                       Value = c(15.493, 0.078, 9, 129))
kable(chiTable, caption = "Chi-Square")
```

Table 2: Chi-Square

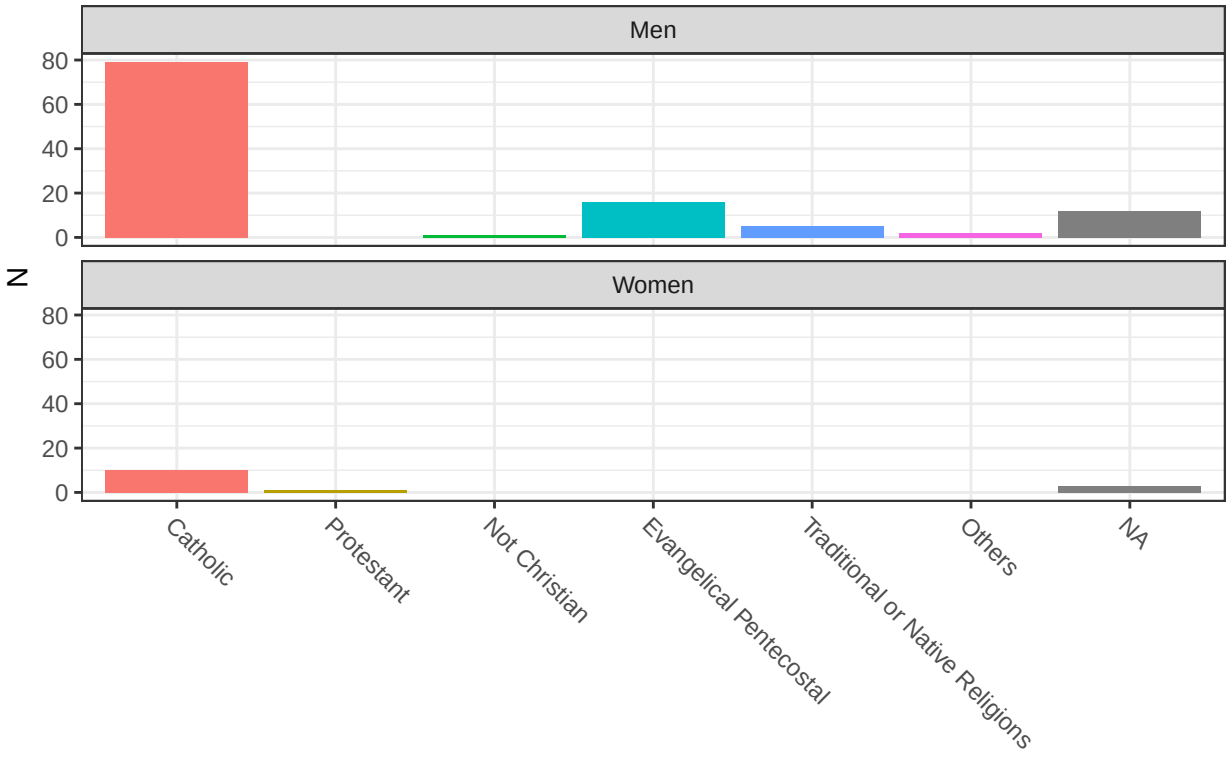
Coefficients	Value
X-Squared	15.493
P-Value	0.078
df	9.000
N	129.000

Religion

As expected, the data shows (graph 7) that Congress is filled more with catholics, followed by pentecostals and protestants; again, it is important to notice that the number of women is very low. About their frequency, catholic deputies are often attending to religious services (graph 8), while the majority of religious people does not go very often.

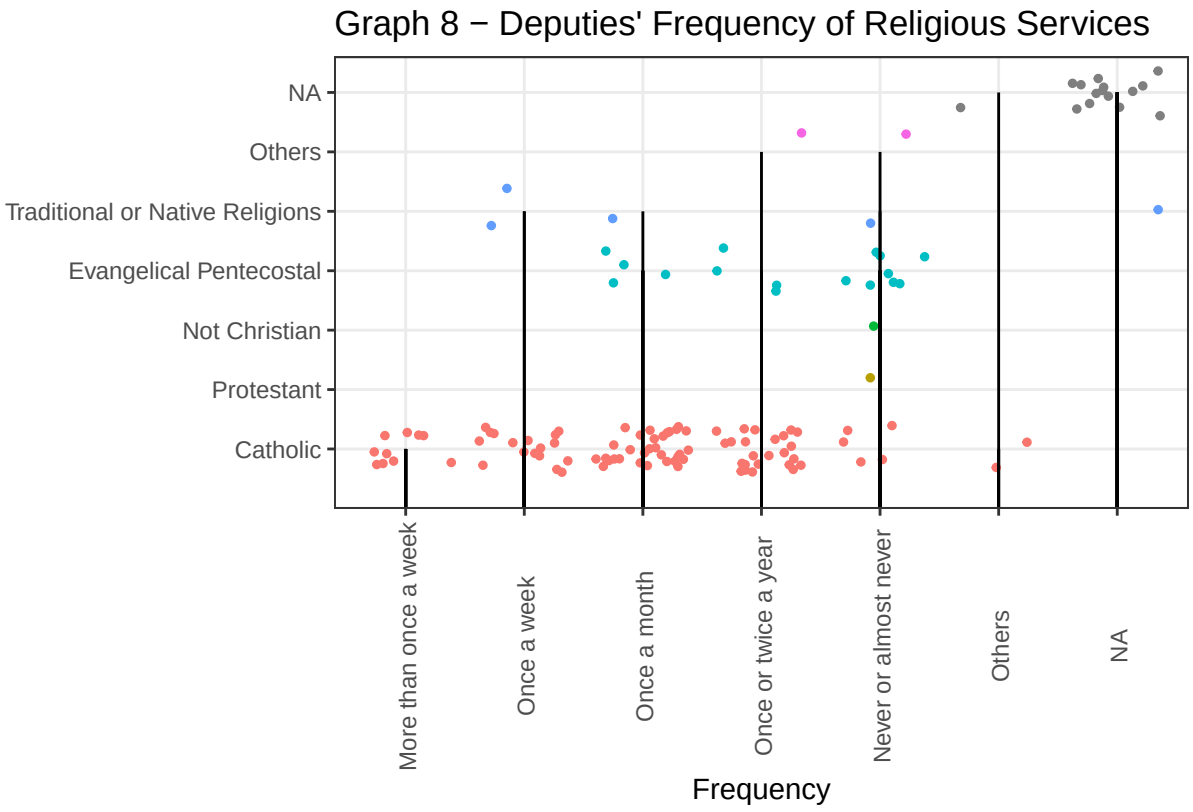
```
library(haven)
library(ggplot2)
pela2010 <- read_sav("~/Downloads/Analise de dados/CEL_UFMG_Banco_Elites_Nacionais_Deputados_Federais_2

theme_set(theme_bw())
attach(pela2010)
# Set the data to a frame
data_pela2010 <- data.frame(SOCD4 = factor(SOCD4, labels = c("Men", "Women")),
                        RE1a = factor(RE1a, labels = c("Catholic", "Protestant", "Not Christian",
                                                       "Evangelical Pentecostal",
                                                       "Traditional or Native Religions", "Others")))

#Build graph
ggplot(data_pela2010, aes(RE1a, fill=RE1a)) + geom_bar() +
  facet_wrap(~ SOCD4, ncol = 1) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  theme(axis.title.x = element_blank()) +
  labs(title="Graph 7 - Deputies religion by sex",
       caption="Source: PELA",
       x="Religion",
       y="N") +
  theme(legend.position="none")
```

Graph 7 − Deputies religion by sex



Source: PELA

```
data2_pela2010 <- data.frame(RE1b = factor(RE1b, labels = c("More than once a week", "Once a week", "On
                                                            "Once or twice a year", "Never or almost never", "
                             RE1a = factor(RE1a, labels = c("Catholic", "Protestant", "Not Christian",
                                                            "Evangelical Pentecostal",
                                                            "Traditional or Native Religions", "Others
# Build graph
ggplot(data2_pela2010, aes(x=RE1b, y=RE1a)) +
  geom_jitter(size=1, aes(col=RE1a)) +
  geom_segment(aes(x=RE1b,
                   xend=RE1b,
                   y=0,
                   yend=RE1a)) +
  labs(title="Graph 8 - Deputies' Frequency of Religious Services",
       caption="Source: PELA",
       x="Frequency",
       y="") +
  theme(legend.position="none") +
  theme(axis.text.x = element_text(angle=90, vjust=0.6))
```

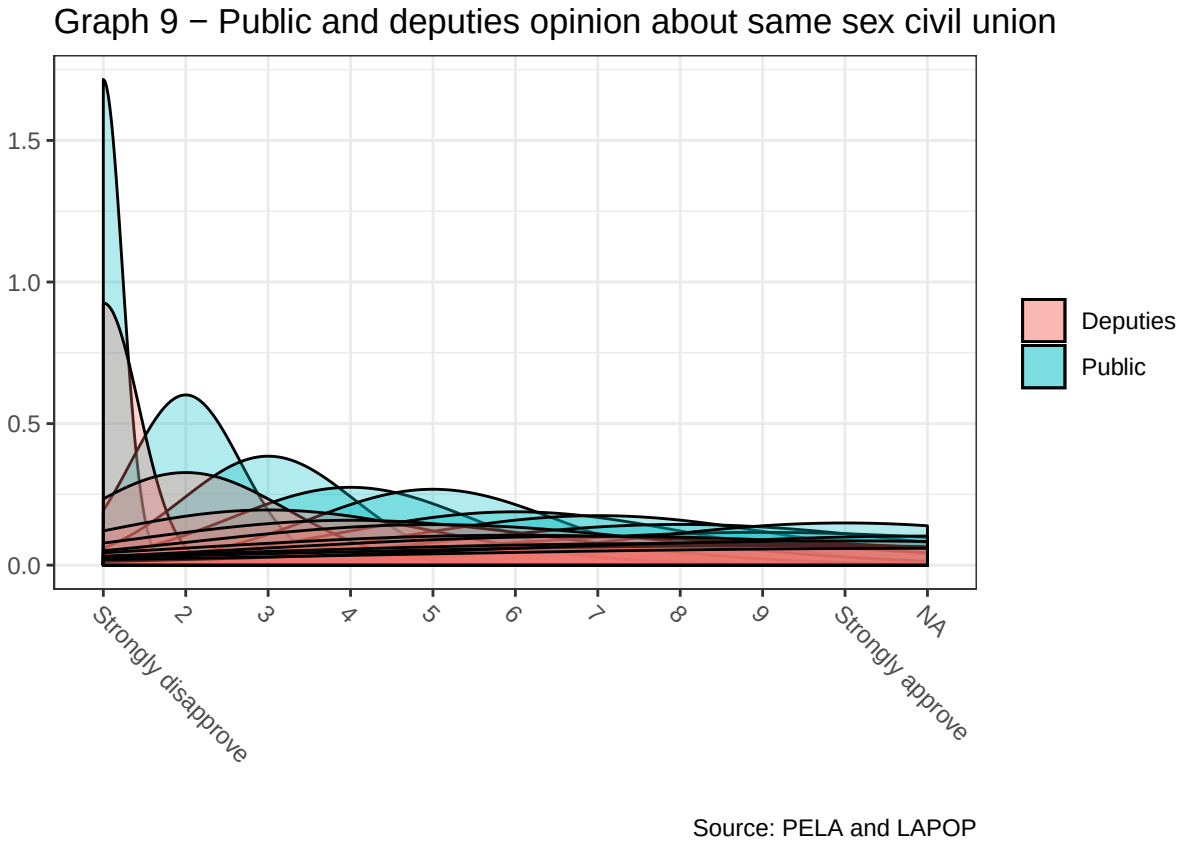


In short, we have that, in total, deputies and public have the same opinion about same sex civil union, once they, in general terms, *strongly disapprove* that. It means hypothesis 1 (public and Congress have the same opinion about LGBT issues) is confirmed: voters and Congress do not approve gay marriage; hypothesis 2 (Brazil as a homophobic Country), however is uncertain, once, at least voters, have a different opinion when asked if it is okay that a homosexual run for office. Unfortunately, there is only one question on the PELA survey for the deputies. Graph 9 below shows that public and deputies opinions converge.

Also, it is important to notice, as discussed above, that the majority of deputies and voters are catholics and they are followed by protestants and pentecostals.

```
library(haven)
library(ggplot2)
pela2010 <- read_sav("~/Downloads/Analise de dados/CEL_UFMG_Banco_Elites_Nacionais_Deputados_Federais_2
data_pela20102 <- data.frame(SOCD4 = factor(SOCD4, labels = c("Men", "Women")),
                             VAL1 = factor(VAL1, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                                            "6", "7", "8", "9", "Strongly approve")))

LAPOP_2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
data_LAPOP_20102 <- data.frame(q1 = factor(q1, labels = c("Men", "Women")),
                               d6 = factor(d6, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                                          "6", "7", "8", "9", "Strongly approve")))

theme_set(theme_bw())

ggplot() +
  geom_density(data=data_LAPOP_20102, aes(x=d6, fill = "Public"), alpha = 0.3) +
  geom_density(data=data_pela20102, aes(x=VAL1, fill = "Deputies"), alpha = 0.3) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
```

```
  labs(title="Graph 9 - Public and deputies opinion about same sex civil union", x="", y="",
       fill = "",
       caption = "Source: PELA and LAPOP")
```



Regression Model

As discussed above, my model concentrates between two important characteristics about Brazilians: their religious and ideology; but the main question here is if this individuality is conditioned to their answer about same sex marriage. I believe the null hypothesis will be rejected, and I expect that people who stand to the right of the ideological scale tend to disapprove the idea of gay marriage; following this idea, religion might have something to do with that, once it is also expect that religious people tend to place themselves on the right. It is actually an interactive model, whereupon, first, I want to investigate the relationship between ideology and disapprove or approve of same sex marriage, and second, if being a religious affects that.

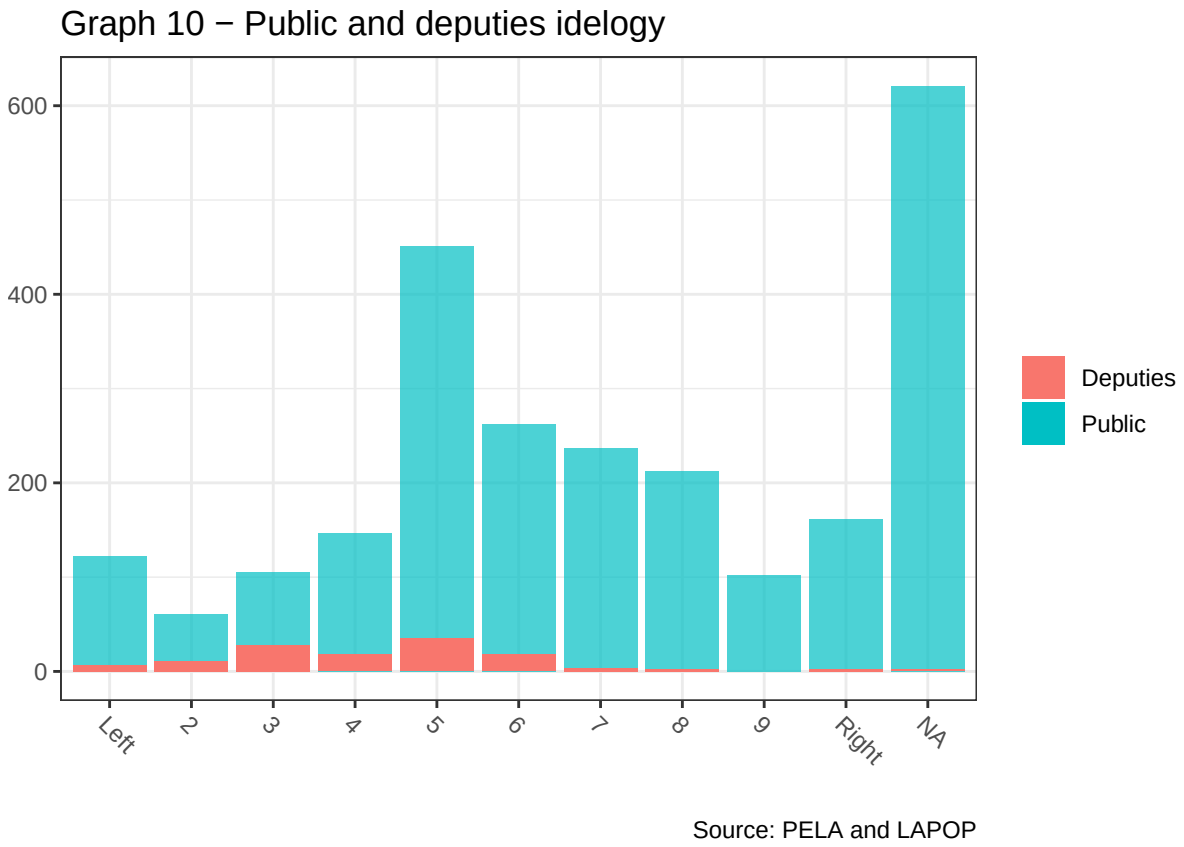
Model 1 - Ideology and Approval of Gay Marriage

On the LAPOP survey, the respondent is asked to place themselves on the right or on the left in the scale [12], same question for PELA [13]. As we can see on graph 10, in 2010 the majority of public placed themselves on the center, but comparing the left with the right, we see that the right is more numerous, while for deputies, the majority who answered the survey stood on the left.

```
library(haven)
library(ggplot2)
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
```

[12] Question code is: *L1*
[13] Question code is: *ID1*

```
pela2010 <- read_sav("~/Downloads/Analise de dados/CEL_UFMG_Banco_Elites_Nacionais_Deputados_Federais_2
attach(lapop2010)
lapop2010_2 <- data.frame(l1 = factor(l1, labels = c("Left", "2", "3", "4", "5",
                                                     "6", "7", "8", "9", "Right")))
attach(pela2010)
data_pela2010_2 <- data.frame(ID1 = factor(ID1, labels = c("Left", "2", "3", "4", "5",
                                                           "6", "7", "8", "Right")))
theme_set(theme_bw())
ggplot() +
  geom_bar(data=lapop2010_2, aes(x=l1, fill = "Public"), alpha = 0.7) +
  geom_bar(data=data_pela2010_2, aes(x=ID1, fill = "Deputies"), alpha = 1) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  labs(title="Graph 10 - Public and deputies idelogy", x="", y="",
       fill = "",
       caption = "Source: PELA and LAPOP")
```



These results might have been an indicative for what the regression reported on table 4: the model is not statistically significant, since p-value was 0.709 and adjusted r-squared was -0.000. In other words, the answer of the public about gay marriage does not have a relationship with ideology; in fact, descriptive data has shown people disapprove same sex civil union, but they tend to place themselves into the center on the ideological scale. So, it all means that ideology (*perception*, at least) does not matter and the majority of people tend to disapprove gay marriage. Graph 9 below details better, and as we can see, even the majority of people on the *extreme* left strongly disapprove. Thus, this does not corroborate to the hypothesis 3, that is, ideology does not explain policy positions about LGBTs. These results can be better seen on graph 11.

```
library(haven)
library(pander)
```

```r
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
reg_lapop <- lm(d6 ~ l1, data = lapop2010)
summary(reg_lapop)
```

```
##
## Call:
## lm(formula = d6 ~ l1, data = lapop2010)
##
## Residuals:
## <Labelled double>
##     Min      1Q  Median      3Q     Max
## -3.5574 -3.4804 -0.5060  3.4426  5.5581
##
## Labels:
##  value                label
##      1 Desaprova Fortemente
##      2                    2
##      3                    3
##      4                    4
##      5                    5
##      6                    6
##      7                    7
##      8                    8
##      9                    9
##     10     Apoia Fortemente
##     88                   NS
##     98                   NR
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  4.57019    0.21651  21.109   <2e-16 ***
## l1          -0.01283    0.03434  -0.374    0.709
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.468 on 1799 degrees of freedom
##   (681 observations deleted due to missingness)
## Multiple R-squared:  7.76e-05,   Adjusted R-squared:  -0.0004782
## F-statistic: 0.1396 on 1 and 1799 DF,  p-value: 0.7087
```

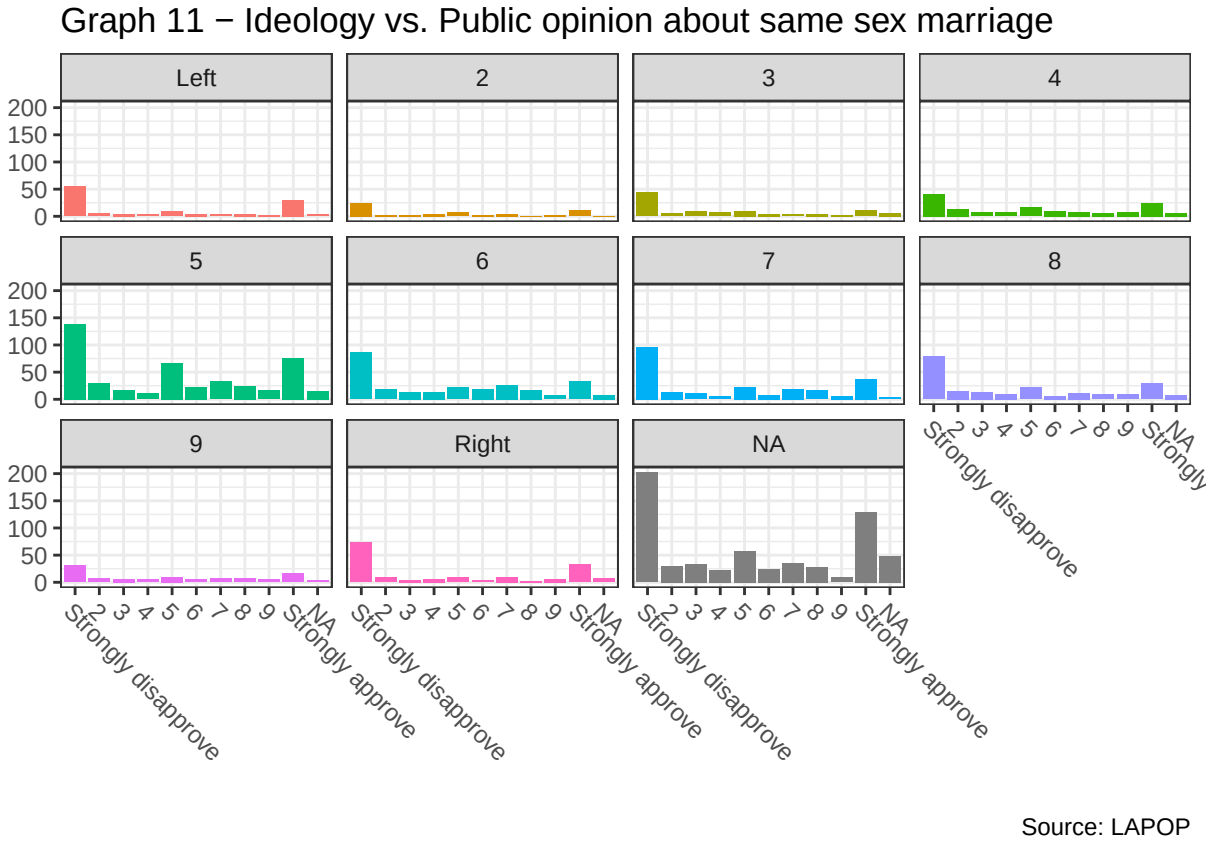
```r
pander(summary(reg_lapop), caption = "Model 1 - Regression Results")
```

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	4.57	0.2165	21.11	1.509e-88
l1	-0.01283	0.03434	-0.3736	0.7087

Table 4: Model 1 - Regression Results

Observations	Residual Std. Error	R^2	Adjusted R^2
1801	3.468	7.76e-05	-0.0004782

```
library(haven)
library(ggplot2)
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
attach(lapop2010)
lapop <- data.frame(d6 = factor(d6, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                               "6", "7", "8", "9", "Strongly approve")),
                                l1 = factor(l1, labels = c("Left", "2", "3", "4", "5",
                                                           "6", "7", "8", "9", "Right")))
theme_set(theme_bw())
ggplot() +
  geom_bar(data=lapop, aes(x=d6, fill = l1), alpha = 1) +
  facet_wrap(~l1) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  labs(title="Graph 11 - Ideology vs. Public opinion about same sex marriage", x="", y="",
       fill = "",
       caption = "Source: LAPOP") +
  theme(legend.position="none")
```



Model 2 - Religion as a determinant factor

Until now, only one of the hypotheses tested here were confirmed: people and Congress disapprove gay marriage. Nevertheless, I can not determinate if Brazil is a homophobic country, due to the fact that on one hand, for public opinion it is okay that a homosexual run for office, but this same person should not have the right to get married on legal terms. The answer for why it happens might be presented on the fact Christianity rejects that, and the majority of people in Brazil is Christian, as seen above.

Therefore, the model concentrates as follow: the dependent variable is disapprove/approve of same sex

marriage, the independent variables are ideology (again, because it is an interactive model) and frequency to religious services, such as cults and masses.

Again, since p-value was 1.331, the result can be seen on table 6 and it was not significant; the adjusted R-squared increased to 0.027, which means the model explains only 2% of public decision to disapprove same sex marriage. In fact, it does not matter the frequency they go to Church, as we can see below (graph 12), in general, they all tend to disapprove civil union of gays.

```
library(haven)
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
reg_lapop2 <- lm(d6 ~ l1 + q5a, data = lapop2010)
summary(reg_lapop2)
```

```
##
## Call:
## lm(formula = d6 ~ l1 + q5a, data = lapop2010)
##
## Residuals:
## <Labelled double>
##     Min      1Q  Median      3Q     Max
## -4.5431 -3.0930 -0.5843  2.9794  6.2882
##
## Labels:
##  value                label
##      1 Desaprova Fortemente
##      2                    2
##      3                    3
##      4                    4
##      5                    5
##      6                    6
##      7                    7
##      8                    8
##      9                    9
##     10     Apoia Fortemente
##     88                   NS
##     98                   NR
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  3.46513    0.27175  12.751  < 2e-16 ***
## l1          -0.01724    0.03443  -0.501    0.617
## q5a          0.41904    0.05901   7.101  1.8e-12 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 3.419 on 1740 degrees of freedom
##   (739 observations deleted due to missingness)
## Multiple R-squared:  0.02837,    Adjusted R-squared:  0.02726
## F-statistic: 25.41 on 2 and 1740 DF,  p-value: 1.331e-11
```

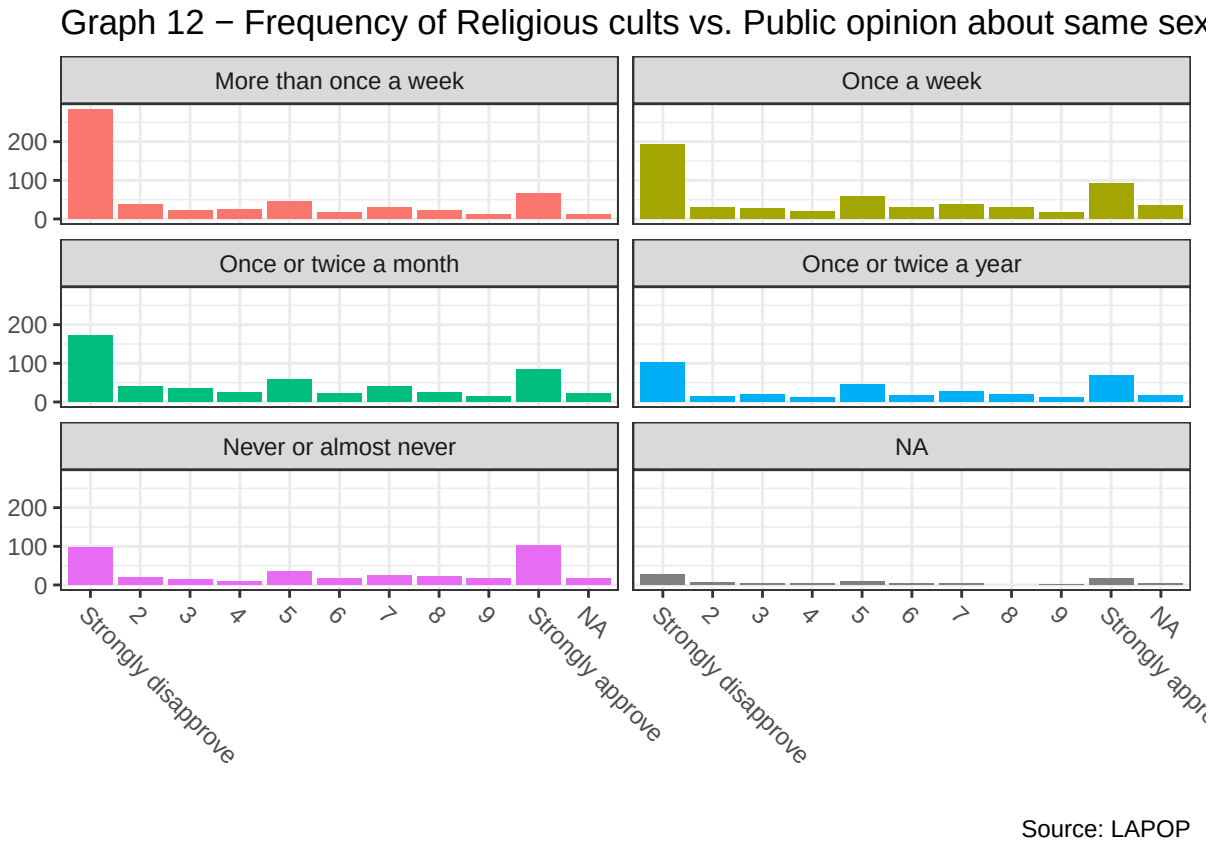
```
pander(summary(reg_lapop), caption = "Model 2 - Regression Results")
```

	Estimate	Std. Error	t value	Pr(>|t|)
(Intercept)	4.57	0.2165	21.11	1.509e-88
l1	-0.01283	0.03434	-0.3736	0.7087

Table 6: Model 2 - Regression Results

Observations	Residual Std. Error	R^2	Adjusted R^2
1801	3.468	7.76e-05	-0.0004782

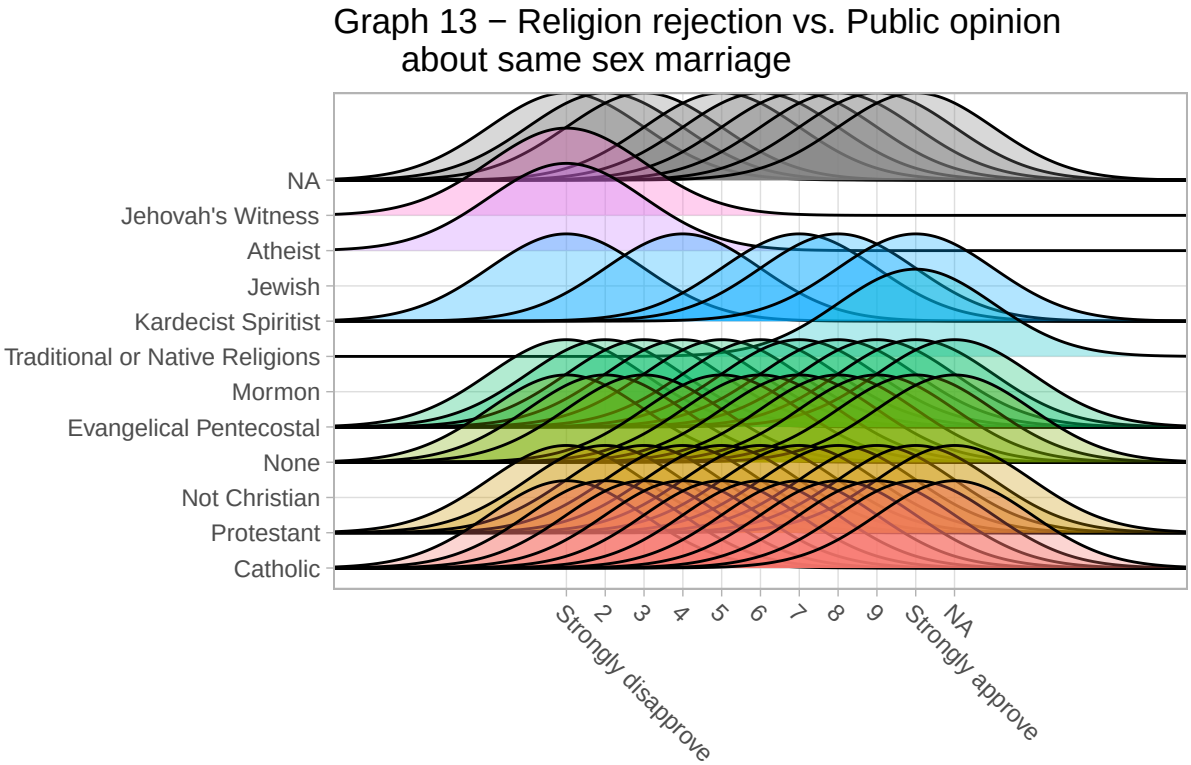
```
library(haven)
library(ggplot2)
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")
attach(lapop2010)
lapop2 <- data.frame(d6 = factor(d6, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                                "6", "7", "8", "9", "Strongly approve")),
                     q5a = factor(q5a, labels = c("More than once a week", "Once a week",
                                                  "Once or twice a month",
                                                  "Once or twice a year", "Never or almost never")))
theme_set(theme_bw())
ggplot() +
  geom_bar(data=lapop2, aes(x=d6, fill = q5a), alpha = 1) +
  facet_wrap(~q5a, ncol = 2) +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  labs(title="Graph 12 - Frequency of Religious cults vs. Public opinion about same sex marriage",
       x="", y="",
       fill = "",
       caption = "Source: LAPOP") +
  theme(legend.position="none")
```



To end this section, I would also like to see which one of the religions presented on the survey disapproves

the most the right of same sex marriage. Graph 13 shows the distribution of the answer for gay marriage question according to the religion of the respondent. On the graph we see that the answer of Jeovah's Witness and atheists are more concentrated on *strongly disapprove* than the others, so it might seem that these groups resist more to the idea of two people from the same sex getting married. However, it is important to remember catholics are more numerous, followed by protestants and pentecostals, and there were few atheists and Jeovah's Witnesses people who answered the survey; the other answers have been more evenly distributed, but always tending to *strongly* rejection, as graph 5 showed.

```
library(haven)
library(ggplot2)
library(ggridges)
lapop2010 <- read_stata("~/Downloads/Analise de dados/LAPOP_2010")

attach(lapop2010)
lapop <- data.frame(d6 = factor(d6, labels = c("Strongly disapprove", "2", "3", "4", "5",
                                               "6", "7", "8", "9", "Strongly approve")),
                    q3c = factor(q3c, labels = c("Catholic", "Protestant", "Not Christian", "None",
                                                 "Evangelical Pentecostal", "Mormon",
                                                 "Traditional or Native Religions",
                                                 "Kardecist Spiritist", "Jewish", "Atheist",
                                                 "Jehovah's Witness")))
theme_set(theme_bw())
ggplot(lapop, aes(x = d6, y = q3c, fill = q3c)) +
  geom_density_ridges(alpha=0.3, bandwidth=2) +
  theme_light() +
  theme(axis.text.x=element_text(angle = -45, hjust = 0)) +
  theme(legend.position = "none") +
  labs(title="Graph 13 - Religion rejection vs. Public opinion
       about same sex marriage",
       x="", y="",
       fill = "",
       caption = "Source: LAPOP")
```



Source: LAPOP

Implications and Conclusions

This work tried to explain how the opinions about LGBTs on Brazil are shaped; I had four hypotheses to be tested by two different ways. First I chose to look at the representation concept and investigate if people and Congress think the same about the homosexual issue of having the right of civil union. The data used here confirmed previous hypothesis: in fact, deputies and public think the same and they do not approve that homosexuals have the right of getting married. About the second hypothesis, that Brazil is a homophobic country, I could not confirm until see the rest of the analysis, due to the fact that Brazilians think it is okay for a homosexual to run for office.

Nevertheless, my other two hypotheses were not corroborated. As theory suggests, ideology is a determinant factor for choosing certain politics instead of others; also, since ideology is associated with religion, I thought religion could be a determinant factor for rejecting LGBTs rights. Well, it might be real in other countries. As seen above, people who placed themselves on the left scale disapprove the civil union of people from the same sex on the same intensity as people on the right; furthermore, religion was not a determinant factor: people who go often to cults and people who go few times (or never), in general terms, strongly disapprove gay marriage. I believe these results can confirm hypothesis 2 that Brazil is a homophobic country, but, of course, more studies are needed for that.

Therefore, there is also the need to understand what shapes public opinion about LGBTs issue, and other factors have to be studied besides ideology and religion.

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APPENDIX

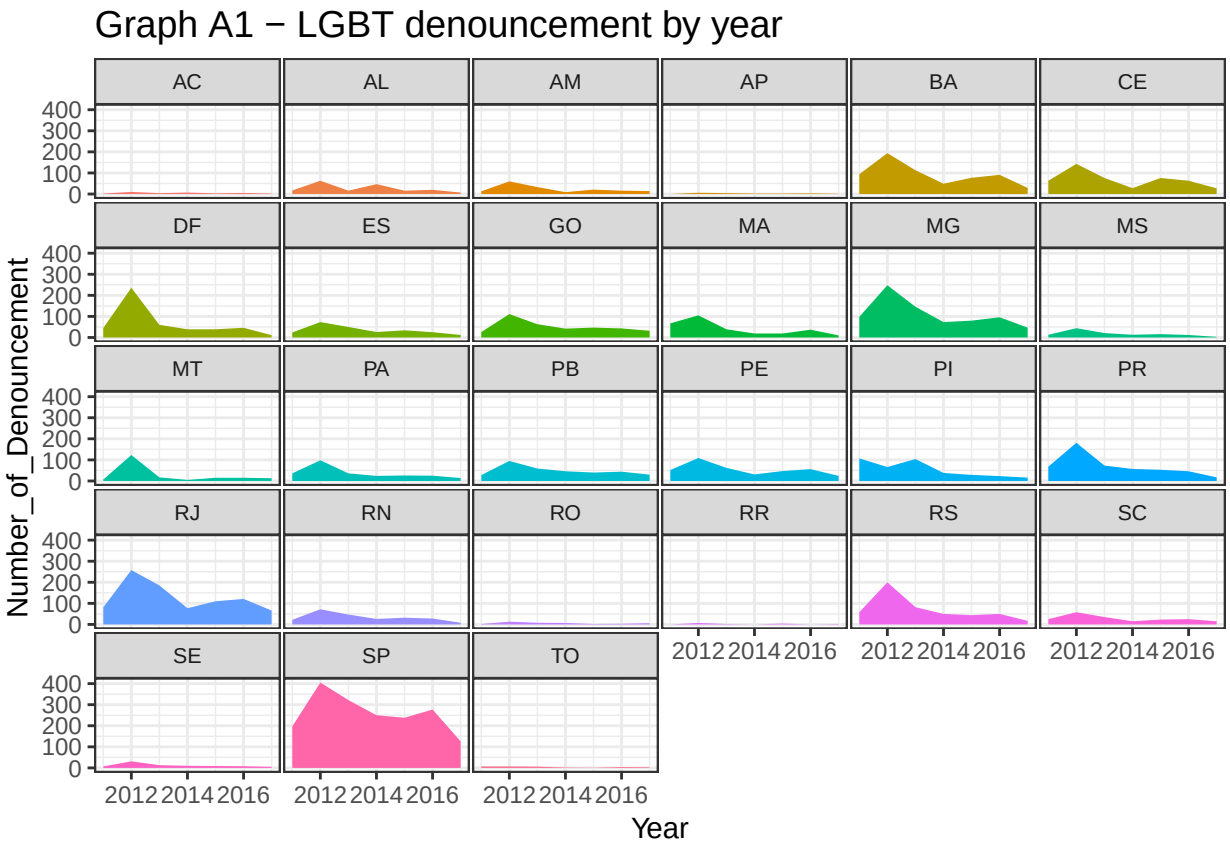
According to the *Ministerio de Direitos Humanos (MDH)*[14], in 2017, Brazil registered 1720 complaints against LGBT people. Although the number is decreasing, in three years, S??o Paulo and Rio de Janeiro were the states with more denouncements, as shown on graph A1.

Also, the data shows (graph A2) that men are more attacked than women, at least they denounce more than women. In gender identity terms, gays and transvestites have the highest numbers of complaints (graph A3), followed by transsexuals and lesbians.

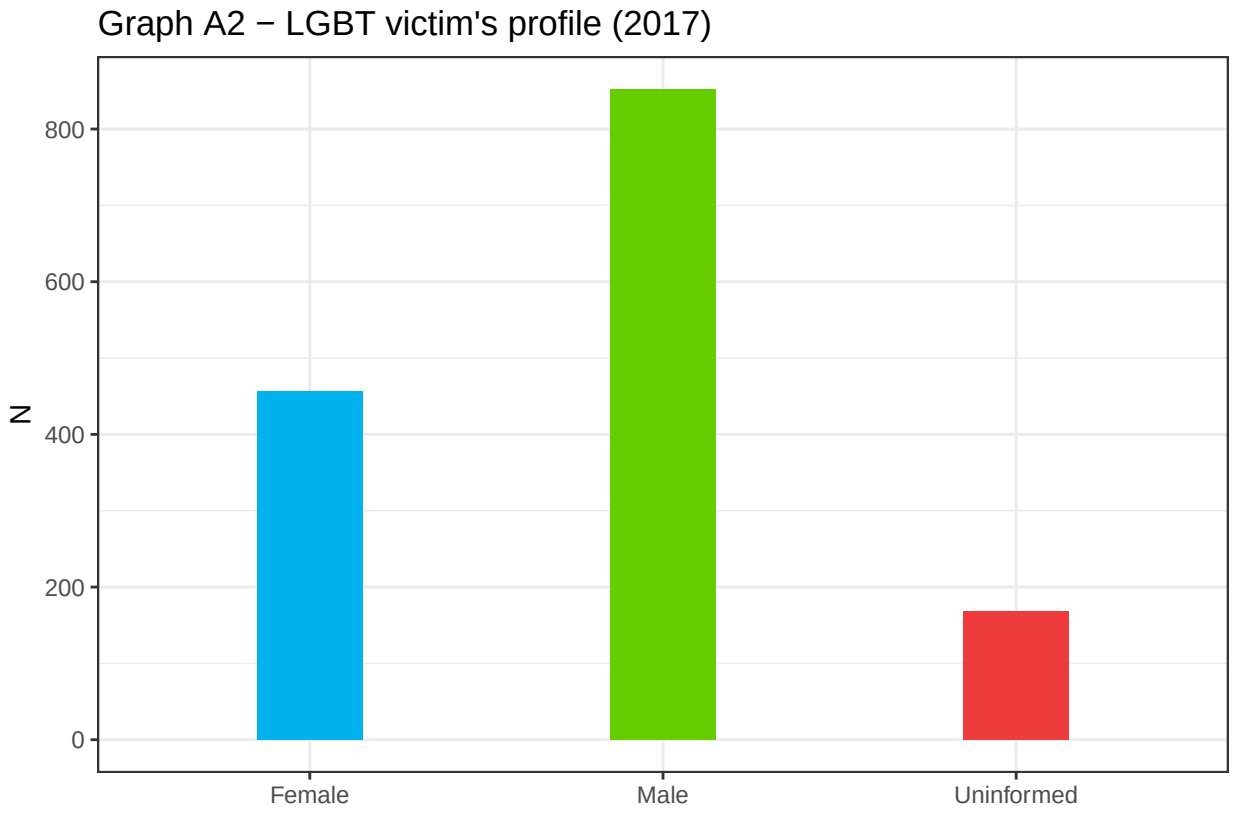
```
# Graph 1
# First, load packages
library(readxl)
library(ggplot2)
library(tidyverse)
library(extrafont)
# Second, load database
den_year <- read_excel("~/Downloads/Analise de dados/denuncias_ano.xlsx")
# Third, set the faceting graph
```

[14]More information available here: http://www.mdh.gov.br/informacao-ao-cidadao/ouvidoria/dados-disque-100 Accessed in 12/23/2018.

```r
theme_set(theme_bw())
den_year %>%
  ggplot( aes(x=Year, y=Number_of_Denouncement, group=State, fill=State)) +
  geom_area() +
  theme(legend.position="none") +
  ggtitle("Graph A1 - LGBT denouncement by year") +
  theme(
    legend.position="none",
    panel.spacing = unit(0.1, "lines"),
    strip.text.x = element_text(size = 8),
    plot.title = element_text(size=14)
  ) +
  facet_wrap(~State)
```




```r
library(ggplot2)
# Graph 2
# The database had to be built from the availiable in the website, because it was not good for visualiz
# So, first it is necessary to set the data
data=data.frame(name=c("Female","Male","Uninformed") , value=c(457, 852, 168))
colours <- c("deepskyblue2", "chartreuse3", "brown2")
# data available here: <http://www.mdh.gov.br/informacao-ao-cidadao/ouvidoria/dados-disque-100/balanco-
# Create barplot
ggplot(data, aes(x=name, y=value)) + geom_bar(stat = "identity", fill = colours, width = 0.3) +
  theme_bw()+
  xlab("") +
  ylab("N") +
  labs(title = "Graph A2 - LGBT victim's profile (2017)")
```




```
# Graph 3
# The database had to be built from the availiable in the website, because it was not good for visualiz
# So, first it is necessary to set the data
data2=data.frame(name=c("Bisexual", "Gay", "Heterosexual", "Lesbian", "Uninformed", "Transsexual",
                        "Transvestite"), value=c(51, 470, 32, 165, 301, 221, 237))
colours2 <- c("deepskyblue2", "chartreuse3", "brown2", "blueviolet", "darkcyan", "darkblue", "chocolate3
# Create barplot
ggplot(data2, aes(x=name, y=value)) + geom_bar(stat = "identity", fill = colours2, width = 0.3) +
  theme_bw()+
  xlab("") +
  ylab("N") +
  labs(title = "Graph A3 - LGBT victim's profile by gender identity (2017)")
```

Graph A3 − LGBT victim's profile by gender identity (2017)