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| e413, section 2 |
| No Homo(phobic): It’s Just My Age, Race, or Religion |
| An econometric analysis of our opinions on homosexuality |
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***Motivation for Paper***

**Scenario: Two classmates, Todd and Jenny converse outside Whispers Café. Names have been changed for security purposes.**

**Todd: Wow, doesn’t he look fancy today, no homo. But that shirt is so gay.**

**Jenny: Don’t say that, it’s disrespectful!**

**Todd: Say what?**

**Jenny: “No homo” and “that’s…so gay”**

**Todd: Why?**

**Jenny: Because it’s homophobic, insensitive, and wrong.**

**Todd: But, it’s not me who hates gays. It’s just my age, race, and religion.**

**-End Scene-**

***Preface:*** *In each section, I shall ask a question related to the scenario above. Please skip around to the sections that interest you or to the questions you found yourself asking. Enjoy.*

***Introduction: “What’s wrong with Todd’s statements, and why do I care?”***

Aside from having grammatical errors and semantic misuse of the phrase “no homo” and word “gay, Todd’s sentence would offend the 6-18% of Americans who identify as gay, bisexual, and lesbians. Why? He first clarifies his complement to another student with the phrase “no homo”—translation: “The student is attractive, but the level of my attraction does not make me gay. I will therefore clarify my statement since I don’t want to be perceived as “gay” or associated with the negative connotation of gay”. While, “no homo” is a succinct way to give this message, but why make this unwarranted clarification? Todd continues with, “But that shirt is so gay”—translation: “He looks good, but his shirt is dumb/stupid/inferior/ugly like the gays”. If this was Todd’s desired message, then gay Americans are rightly offended; however, individuals like Todd may have meant no harm by the comments.

Similar issues spark interesting discussion on homophobia, defined as “a range of negative attitudes and feelings towards homosexuality and people identified as being homosexual”. Namely, Todd is either a big bad homophobe or one of the millions of Americans who don’t always say the most sensitive things! We see similar conflict with issues such as race (he’s a racist!), class (she’s a classist!), and gender (he’s a big bad misogynist). Social scientists debate whether “homophobia” and its root association with “fear” could be replaced by a clearer term; however, most agree on two points: first, some people are intentionally homophobic and prejudicial against gays; second, a homophobic comment or action can be blatant or hidden.

But, Americans and social scientists disagree on whether a comment must mean to discriminate before it’s a “homophobic” comment. After all, Americans have mixed attitudes toward the gay, bisexual, and lesbian communities and thus the level of homophobia must reflect the differences in these attitudes. Hence, feminist and pro-LGBT (lesbian, gay, bisexual, and transgender) social scientists launched studies on Americans and their acceptance of homosexuality (See *Theory and Prior Research)*. Questions included the following: what are the demographic, psychological, and social variables which lead people to accept homosexuality? How does this relate to the culturally created definition of homophobia? In “Public Attitudes towards Gays and Lesbians”, the authors questioned which type of people is more likely see no problem with Todd’s statement (the “homophobes”) and which finds it problematic. While you may question whether negative attitudes constitute homophobia as defined above, I shall continue using an alternative definition of the word.

**Homophobia: Comments or actions marked by negative attitudes toward gays and lesbians, whether observable/intentional or not.**

***Goal of Paper****:*You may also question whether demographic, psychological, and social variables (a person’s “type”) have anything to do with their attitudes toward homosexuality. In this paper, I shall try to question which (if any) characteristics are deterministic of homophobic views on three issues: the morality of homosexuality, gay marriage, and gay/ lesbian parenting. I chose these three issues because of data availability and their political relevance to current years. In reference to Todd’s statement, I shall whether race, gender, or age (if any) is deterministic of homophobic views and which is the most deterministic. I hypothesize that physical traits will not fully explain negative attitudes; however, religion, gender, level of education and age will be strongly deterministic compared to race, income.

I wrote this paper because homophobia is a prevalent social justice issue of the current decade. According to Coretta Scott King, “Homophobia is like racism and anti-Semitism and other forms of bigotry in that it seeks to dehumanize a large group of people, to deny their humanity, their dignity, and personhood.” We owe the insight offered by this paper to the gays and lesbians harmed by the negative attitudes of their neighbors. In fact, we owe it now more than ever due to the current political press around bills such as Don’t Ask Don’t Tell and the Discrimination bill (See appendix for more information). Armed with theory, prior research, and my newfound econometric skills, I hope to pay my due.

***Theory and Prior Research: “Who’s tried to prove or disprove Todd and what have they concluded?”***

As mentioned, social scientists have studied the demographic, psychological, and social variables of Americans to determine which best explain attitudes towards gays and lesbians. Using surveys, polls, and personal interviews, social scientists have determined that positive attitudes are likely for white, young, non-religious, well-educated, politically liberal women who have close personal contact with “out” gays or lesbians. Negative attitudes were common if the respondent was a very religious and politically conservative older black male. The closer an individual to one of these phenotypes, the more likely they were to have either positive or negative attitudes (Public Attitudes towards Gays and Lesbians).

Several papers have discussed these findings in terms of the general decrease in homophobia since the 1970s and the increase in the relevance of gay issues. In “America’s Liberalization in Attitudes toward Homosexuality, “ the authors claim that liberalization, the Civil Rights movement, and the fight for women’s rights hurried this along; furthermore, they claim that negative attitudes toward homosexuality have become less frequent and prominent. The authors of “Changing Attitudes toward Homosexuality” agree that liberalization has influenced negative attitudes towards gays; however, they claim that homophobia has changed form rather than become less prominent. Instead of blatant anti-gay remarks, our society has adopted insults and colloquialisms which perpetuate negative attitudes and make them harder to detect. The author of “Public Attitudes towards Gays and Lesbians” makes an entirely different claim: liberalization has allowed lesbians to be more socially accepted but not gay men due to gender roles and media depictions. This paper encouraged me to compare the opinions of gays and lesbians separately in my econometric analysis.

*Expected Signs and Hypotheses*



*Variables retrieved from Pew Research Center Poll (2003). See “Data” Section. A positive sign can be interpreted as follows: The greater the variable X, the more homophobic an individual is. Let Race\_White= White for discussion.*

Todd claims that his gender, race, and religion explain his negative attitudes towards gays above any other traits. In “Do Heterosexual Women and Men Differ in Their Attitudes toward Homosexuality?” authors cite that women in their survey were more accepting of homosexuality because they identify as a similarly marginalized and oppressed social group. From this paper, we conclude that if a dummy variable for men is included in a regression, the coefficient will be significant and positive. A man will be more homophobic than a woman (as also explained by gender roles and media depictions. The authors of “Attitudes toward Gay Marriage in States Undergoing Marriage Law Transformation” agree that women are less homophobic than men but assert that gender significantly affects the acceptance of gay marriage; thus, in the regression where the dependent variable is OPFamily, we accept a significant positive coefficient.

Researchers disagree whether race is a strong determinant of negative attitudes. In “Attitudes toward Gay Marriage a study of blacks and whites in well-populated states, authors claim that white people are more accepting of gay marriage than blacks because of the “black church” (See appendix for explanation). Specifically, they claim that when a regression of Race\_White on OPFamily, Race\_White will have a significant coefficient; however, when Religion is added to the regression, the coefficient may no longer be significant. Another social scientist concurs with the following: “blacks are not more or less accepting of homosexuality after controlling for religion”. After discussing this finding with several colleagues, I conclude that this is highly debatable but predict that race will be insignificant in the final regression.

Prior to my research, religion was the most significant determinant of attitudes towards gays. Gays are often stigmatized by the Catholic and Christian churches as sinful beings doomed for hell. Numerous papers concurred with my hypothesis by concluding that followers of “conservative” religions like Catholicism, Christianity, and Judaism are more likely to have negative attitudes. In a paper titled “The Relative Importance of Ethnicity and Religion in Predicting Attitudes toward Gays and Lesbians”, authors reached this conclusion and discussed how religiosity often confounds the effect of race on homophobic attitudes.

Theory about the other variables was intuitive. Thus, I conclude that AGE, EDUCATION, and MALE will have positive coefficients. Frequency of religious service attendance, INCOME, political liberalism, and religious liberalism will have negative coefficients. Interpret a positive expected sign as follows: i.e. the greater a respondent’s age, the more homophobic he/she will be, all else held equal. We interpret a negative expected sign as follows: i.e. the greater a respondent’s income, the less homophobic he/she will be, all else held equal. Remember that the more homophobic a person, the more negative their attitude towards gays and lesbians.

I could not find research on a nonlinear functional form for this regression; however, I suspect that most coefficients behave linearly. Thus, I shall begin with the following functional form for my regressions:

OPGays/ OPFamily/ OPLesbians/ Overall = β0 + β1\*Age + β2\*Attend + β3\*Education + β4\*Income + β5\*Political + β6\* White + β7\*Religion + β8\*Male

**Data: “What proof do we have about Todd’s claim?”**

I used cross-sectional data from the PEW Research Center Poll from October 2003. Applicants were asked various identification questions (age and gender). Then, respondents answered various statements with a strongly agree, agree, neutral, disagree, or strongly disagree answer. Statements resembled the following “Homosexuality is against my morality”. Responses of “strongly disagree” were coded as 5 while “agree” was coded as 1. No response was recorded as 9, and I excluded these observations for simplicity.

The data was problematic since the survey was very subjective, ambiguous and prone to Nonresponse bias/ self-selection (individuals with strong opinions were either over or underrepresented in the data). The poll consisted of 1515 random telephone interviews from a nationally representative sample of adults living in the continental US. Numbers were drawn from blocks of telephone numbers.

Below is a list of the independent variables that I used and their variable names in the original data set:

OPGAYS: Opinion of American Gays [Q.30a] (Ordered variable)

OPLESBIANS: Opinion of American Lesbians [Q.30b] (Ordered variable)

OPFAMILY: Opinion of gay/lesbian couples/ marriage/ adoption [Q.36] (Ordered variable)

OPRELIGION: Opinion of the morality of homosexuality [Q.43] (Ordered variable)

For the expected signs and independent variables, please see the table in the appendix. The descriptive statistics for both variable groups is also in the appendix.

I made a Q-Q plot for each independent variable to determine the distribution. Age and Attendance were normally distributed and appeared linear on the Q-Q plot. I determined that Political and Race were exponentially distributed. Education and Religion maintained a Sinusoidal shape on the Q-Q plot; thus, I was unable to conclude the distribution of Education and Religion in this data set.

**Regressions: “Take this, Todd! ECONOMETRICS”**

Replicated for your convenience:



Inspired by Todd’s comment, I first estimated Overall on a constant tem, Age, White, and Religion with OLS (eq01).

*“Equation 1”*



The regression failed the Ramsey, countered all prior theory, and had a negative R^2 term. This is to be expected since the dependent variable is ordered and discrete. Thus, I used logit modeling which is used to explain one or more categorical variables. OLS could be used by a method known as integer scoring. We assign the lowest score a 1 and then move up by an integer for every category. This method is very crude because we assume that the categories are equally spaced. OLS regression:  This analysis is problematic because the assumptions of OLS are violated when it is used with a non-interval outcome variable.

Thus, I tried modeling Overall with Age, White, and Religion (See Appendix) using Ordered Logit estimation. This got a very low Pseudo R^2 value (0.008) and large Akaike/ Schwarz. I was unable to get an R^2 term higher than than the estimate with OLS.

I then modeled OPLesbians, OPGay, and OPFamily with Ordered Logit method. I’ve included my final regressions in the appendix. For each term, I was unable to get a pseudo R^2 value higher than 0.22, and the expected probability tables had numerous error terms for each scaled opinion. Thus, I need to take a more advance econometric course to better model the data. Since I used ordered logit rather than OLS, I was unable to test for multicollinearity, heteroskedascity, and serial correlation using the standard statistical tests. In all regressions, the Akaike and Schwarz were reasonable; however, the log likelihood ration was very negative and the DW statistic was very high. This may be due to incorrect functional form or problems with the ordered logit model.

**Conclusions: “So, Todd, I’m not sure if its your age, race, and gender! Not enough variability is explained!”**

None of my regressions sufficiently modeled opinions of homosexuality using my accessible variables. Thus, I will continue to try new ordered logit models as well as gather better data. Overall, my paper is more exploratory than conclusive. I was able to determine that attitudes toward homosexuality depend on the issue. My inability to model Overall and the different coefficients in each regression are evidence of this.

Most of my regression findings are consistent with previous studies; however, since functional form may be an issue, I do not have sufficient evidence to conclude so.

**Areas of Further Study**

A more complete dataset would be necessary for retesting. This would mitigate the nonresponse bias present in this sample. Individuals who are more skilled with econometrics and have a better data set will get more conclusive result.

I would have enjoyed a more thorough analysis of attitudes of gays versus of lesbians. Unfortunately, several survey questions related to homosexuality lumped the two groups into one category. I would be interested to give two different forms of each question where the word “homosexual” is substituted for “lesbian” on Form 1 and “gay man” in Form 2. I would also like to include survey questions about bisexuality.

**Appendix**

**Expected Signs**

**Descriptive Stats**



*For regressions, observations where Age=99, Education=9, Income=10, Religion=9 were excluded as outliers.*

***Independent vars***

***Dependent Vars***



**Sample Survey Questions**

OPFamily I’m going to read you some statements, some of which you will probably agree with, others you will probably disagree with. The first is… **[INSERT ITEM, RANDOMIZE]**, do you completely agree, somewhat agree, somewhat disagree, or completely disagree with this statement. **[INSERT ITEM, RANDOMIZE]** *{Kaiser/PSRA 2000 Q22 modified intro} {PSRA/Newsweek 5-96 mod intro}*

a. Society should not put ANY restrictions on sex between consenting adults in the privacy of their own home. *{2000}*

b. Gay and lesbian couples can be as good parents as heterosexual couples *{2000}*

c. Allowing gay and lesbian couples to legally marry would undermine the traditional American family *{2000}*

d. Gay marriage would go against my religious beliefs *{1996 agree/disagree}*

**RESPONSE CATEGORIES:**

1 Completely agree

2 Somewhat agree

3 Somewhat disagree

4 Completely disagree

5 Mixed opinion **(VOL.)**

9 Don’t know/Refused **(VOL.)**

RELIGION

What is your religious preference — Protestant, Roman Catholic, Jewish, Muslim, Mormon, or an orthodox church such as the Greek or Russian Orthodox Church?

1 Protestant (include Baptist, Lutheran, Methodist, Presbyterian, Episcopalian, Pentecostal, Jehovah's Witness, Church of Christ, etc.)

2 Roman Catholic

3 Jewish

4 Mormon (include Church of Jesus Christ of Latter Day Saints)

5 Orthodox Church (Greek or Russian)

6 Islam/Muslim

7 Other religion **(SPECIFY)**

8 No religion, not a believer, atheist, agnostic

9 Don't know/Refused **(VOL.)**

OPGays/Lesbians Would you say your overall opinion of **[READ, ROTATE]** is very favorable, mostly favorable, mostly unfavorable or very unfavorable? *{new}*

a. Gay men

b. Lesbian women

1 Very favorable

2 Mostly favorable

3 Mostly unfavorable

4 Very unfavorable

9 Don’t know/Refused

SEX [ENTER RESPONDENT'S SEX:]

1 Male

2 Female

AGE What is your age?

\_\_\_\_\_\_\_\_ years

97 97 or older

99 Don’t know/Refused **[VOL.]**

EDUC What is the last grade or class that you completed in school? **[DO NOT READ]**

1 None, or grade 1-8

2 High school incomplete (Grades 9-11)

3 High school graduate (Grade 12 or GED certificate)

4 Business, Technical, or vocational school AFTER high school

5 Some college, no 4-year degree

6 College graduate (B.S., B.A., or other 4-year degree)

7 Post-graduate training or professional schooling after college

(e.g., toward a master's Degree or Ph.D.; law or medical school)

9 Don't know/Refused **(VOL.)**

**Regression Output**

**EQ01 EQ01b (Includes all vars; best OLS regression of Overall)**



**EQ01b Passes Ramsey but has low R^2**



**OPLesbian01 OPLesbian02**



**OPFamily01 OPFamily02**



**OPGays01 OPGays02**



**References: “What do more qualified people have to say about Todd?”**

**Data Source**

Pew Research Center Poll: October News Interest Index-Politics/Public Life/Religion [USPEW2003-10NII]

<http://webapps.ropercenter.uconn.edu/CFIDE/cf/action/catalog/abstract.cfm?label=&keyword=USPEW2003+10NII&fromDate=&toDate=&organization=Any&type=&keywordOptions=1&start=1&id=&exclude=&excludeOptions=1&topic=Any&sortBy=DESC&archno=USPEW2003-10NII&abstract=abstract&x=31&y=13>

**Research/ Prior Theory**

Public Attitudes towards Gays and Lesbians

<http://www.informaworld.com/smpp/content~content=a904295819&db=all>

The Relative Importance of Ethnicity and Religion in Predicting Attitudes Towards Gays and Lesbians

<http://pdfserve.informaworld.com/297990_731197582_904295819.pdf>

(Sexual Differences) Do Heterosexual Women and Men Differ in Their Attitudes Toward Homosexuality? A Conceptual and Methodological Analysis

<http://books.google.com/books?hl=en&lr=&id=dXccg9o9zZkC&oi=fnd&pg=PA165&dq=attitudes+toward+homosexuality&ots=jEQDOogcQJ&sig=I2wjofuuVYUT7ZwUDXbdoJH9EsI#v=onepage&q=attitudes%20toward%20homosexuality&f=false>

Attitudes Toward Gay Marriage in States Undergoing Marriage Law Transformation

<http://www.bgsu.edu/downloads/cas/file35771.pdf>

Ethnic Differences in Sexual Attitudes of U.S. College Students: Gender, Acculturation, and Religiosity Factors

<http://www.springerlink.com/content/u267377kx2kj6816/fulltext.pdf>

The Relative Importance of Ethnicity and Religion in Predicting Attitudes Towards Gays and Lesbians

<http://pdfserve.informaworld.com/883485_731197582_902672622.pdf>

Black-White Differences in Attitudes toward Homosexuality and Gay Rights\*

<http://poq.oxfordjournals.org/cgi/content/abstract/67/1/59>

America's Liberalization in Attitudes toward Homosexuality, 1973 to 1998

<http://www.jstor.org/stable/3088957>

Changing Attitudes Toward Homosexuality:

<http://docserver.ingentaconnect.com/deliver/connect/nasw/00378046/v52n1/s8.pdf?expires=1270183217&id=55969380&titleid=6449&accname=Washington+University+School+of+Medicine+Library&checksum=1F4C72D799DA9B9AD2E2934CF43BC426>

Religion and Public Opinion about Same-Sex Marriage

<http://www.brandeis.edu/departments/sociology/documents/OlsonCadgeHarrison2006.pdf>