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The Quality of Life of Muslim Immigrants After the 9/11 Terrorist Attacks

Danielle Shamel
Economics
The University of North Carolina Asheville
One University Heights
Asheville, North Carolina 28804 USA

Faculty Advisor: Dr. Jie Ma

Abstract

Using a difference-in-difference framework and micro data from the Current Population Surveys (1996 - 2006), this paper estimates the impact that the September 11th terrorist attacks had on the quality of life of immigrants with nativity profiles similar to the terrorist. To provide a comprehensive evaluation of the attacks on Muslim immigrants, this paper studies not only the labor market outcomes such as employment, wage and total family income, but also explores the access and utilization of various health and social welfare and the education attainment of young Muslim immigrants. The basic DID estimators find a negative impact of the 9/11 event on various outcome variables. The paper then extends the basic DID to an event study that exams the evolution of impacts over a median period of time. The event study finds that the impacts mitigate slightly over time but persist two to four years after the event.

1. Introduction

The tragic events of September 11th shook up the lives of many. It was a day of loss; some lost their lives, some lost their loved ones, and many lost their usual feeling of peace and comfort. This one day had a variety of impacts, many that were clear but some that fell under the radar. Different groups were impacted in different ways; specifically, this event perpetuated a certain stigma related to the Middle East, Islam, and Arab immigrants. The impact of the 9/11 event on Arab and Muslim immigrant's well-being in the U.S. has been researched some, but not fully.

The research question studied in this paper is what impact the 9/11 event had on the quality of life of Arab and Muslim immigrants in the United States. While previous studies focused greatly on labor market outcomes specifically, this study extends the scope to a broader set of variables in an attempt to capture overall quality of life. In this paper, well-being is measured through access to education and years of education, wages and hours worked, and access to health care and health insurance. Control variables include origin countries, years since immigration, age, experience, family socio-economic status, and state/region occupied.

While this study focuses on a smaller percentage of the population, this does not make the findings less valuable. Understanding the way society adjusts after a previous traumatic event can help influence policies. For example, if a clear decline in the employment rates and incomes of Muslim immigrants after 9/11 is observed, future policies could be designed to better protect certain groups if a similar unfortunate event were to ever occur again. The same could apply to any education decline or healthcare decline. Furthermore, expanding the current literature to examine not only incomes after the event, but also education and health care access broadens the scope of what truly matters in people's lives; people care about an overall healthy, happy life not just a financially comfortable one.

The paper Changes in the Earnings of Arab Men in the US between 2000 and 2002 by Alberto Dávila and Marie Mora[1] examines how the 9/11 event impacted the wages of Middle Eastern Arab men and Afghan, Iranian, and Pakistani men. Using public-use microdata samples from the American Community Survey, Davila and Mora found these men experienced a significant earning decline relative to non-Hispanic whites between 2000 and 2002. Further analyses based on the Juhn–Murphy–Pierce wage decomposition technique as well as quantile regression indicate that

this earnings decline is not explained by changes in the structure of wages or in observable characteristics beyond ethnicity.

The paper Labor Market Effects of September 11th on Arab and Muslim Residents of the United States by Neeraj Kaushal, Robert Kaestner and Cordelia Reimers[2] examines the impact of the 9/11 terrorist attacks on the employment, earning, and residential mobility of first- and second-generation Arab and Muslim men in the U.S. Using data from the 1998-2004 Current Population Survey monthly outgoing rotation groups files, the authors ran a regression measuring the effect of 9/11 on different groups of the population based on nativity, education, geography and incidence of hate crimes.

This paper found that September 11th did not significantly affect employment and hours worked for Arab and Muslim men, but was associated with a 9-11 percent decline in their real wage and weekly earnings, with some evidence that the decline was temporary. Adverse earnings effects were strongly linked to hate crime incidence. Finally, these estimate also suggest that the terrorists' attacks reduces intrastate migration of Arab and Muslim men.

The paper Post 9-11 U.S. Muslim Labor Market Outcomes by Faisal Rabby[3] uses a difference-in-difference framework and micro data from the Current Population Survey-Merged Outgoing Rotation Group Files (1999 to 2004) to estimate the impact of 9/11 on the U.S. labor market outcomes of individuals with nativity profiles similar to the terrorists. This paper finds that shortly after the attacks, the employment-population ratios and hours worked of very young Muslim men (ages 16-25) fell. However, by 2004 these losses began to dissipate, and the employment-population ratios and hours worked of older Muslim men experienced little deteriotation. This paper also examines the impact of the July 2005 London bombings on the labor market outcomes of U.S. Muslims and finds no affect.

In another similar paper by Rabby[4], called The Impact of 9/11 and the London Bombings on the Employment and Earnings of U.K. Muslims, he further investigates the impact of 9/11 and the July 2005 bombings in Britain for both US Muslims and UK Muslims. Rabby once again found a relative decrease in employment of young Muslim men associated with 9/11 in the U.S. He also found a similar decrease in employment of young Muslims living in the UK both after 9/11 and again after the July 2005 bombings.

While these papers all supply their own valid data and arguments, they all failed to examine- and therefore failed to represent - the impact of the event on women. Furthermore, while these papers investigate mainly hours worked and earnings, this study would like to broaden the scope of the impact to include education and health care. Finally while these papers cover a short term impact, this paper intends to further investigate the long term impact of the event.

When discussing how September 11th, 2001 impacted Arab and Muslim immigrants and how this research may differ compared to what has been done previously, it is important to include why this even matters. Firstly, it is important to broaden the research to include women because it is simply unfair that women were ignored in the previous research. If the goal is to improve our societies and our systems, it is imperative to investigate how all members can be affected. This study also seeks to stress the importance of the impact the event may have had on healthcare and education outcomes; while the employment outcomes are an important piece of the puzzle, employment and money is not the only focus in our lives.

Generally speaking, it is important to understand the full impact of the event because it can affect how governments may think about the policies they are implementing. Should they be creating safe guards for innocent immigrants whose only "crime" is their nativity profile? How can immigrants be protected if another terrorist event were to occur? And finally, how can the well-being of these immigrants be promoted overall in an effort to not only make their lives better, but to also reduce radical anti-American ideals from brewing in our own nation?

2. Data: Muslim Immigrants Compared to Other Ethnic Groups

Table 1. Muslim Immigrants Compared to Other Ethnic Groups

Characteristic	Muslim Immigrant (M)	Muslim Immigrant (F)	Non-Muslim Immigrant (M)	Non-Muslim Immigrant (F)	Native (M)	Native (F)
Share of Population (%) tab ethnic groups	0.165	0.136	08.59	06.236	42.367	45.203
Mean Age	40.21 {16.61}	39.75 {17.75}	37.72 {17.65}	39.82 {18.41}	32.21 {21.87}	34.19 {22.54}
Mean Total Income	45,383.25 {61497.65}	18,487.20 {35034.98}	30,562.11 {43281.89}	15,542.89 {25239.42}	37,311.43 {48218.67}	20,160.62 {26272.38}
Mean Wage Income	36,608.58 {57136.55}	13,859.09 {30106.71}	25,700.52 {40340}	12288.98 {23553.42}	29,093.44 {44767.32}	15015.54 {24345.02}
Mean Welfare Income	51.26 {641.46}	99.59 {898.81]	21.60 {375.29}	116.74 {868.85}	10.91 {260.41}	64.12 {592.92}
% Below Poverty Line	15.16 {0.3586}	16.66 {0.3727}	16.01 {3.6475}	19.78 {3.0946}	10.35 {5.2163}	13.12 {4.8487}
% with highschool diploma or above	79.49	75.30	55.61	57.86	56.66	60.16
% with any health coverage	78.87 {0.4083}	81.98 {0.3845}	66.69 {0.4713}	72.29 {0.4476}	87.93 {0.3258}	89.12 {0.3114}
% with private insurance	64.18 {0.4796}	60.94 {0.488}	53.33 {0.4989}	52.98 {0.4991}	73.33 {0.4422}	72.18 {0.4481}

The preliminary statistics show that Muslim Immigrant men actually have higher mean total incomes and higher mean wage incomes compared to both native men and non-muslim immigrant men. However, this could possibly be due to their higher rates of education, with Muslim Immigrant men showing 79.49% of those surveyed having a highschool diploma or above, compared to 56.66% of Native Men. Furthermore, the Muslim population is older than the Native population on average; this could lead to them being more established overall. However, the same observations do not hold true for Muslim Immigrant women compared to Native women; despite being older and more educated than Natives, Muslim Women's incomes remain lower compared to native women.

In regards to insurance coverage, Muslim rates of having any coverage are pretty consistent with Natives, with an almost 10% difference between the males and only about an 8% difference between the females. Non-Muslim immigrants seem to be lagging behind both groups. Native men and Muslim men remain about 10% apart regarding

private health insurance, however we see a wider gap of about 12% between Muslim and Native women. Once again, Non-Muslim Immigrants are left behind.

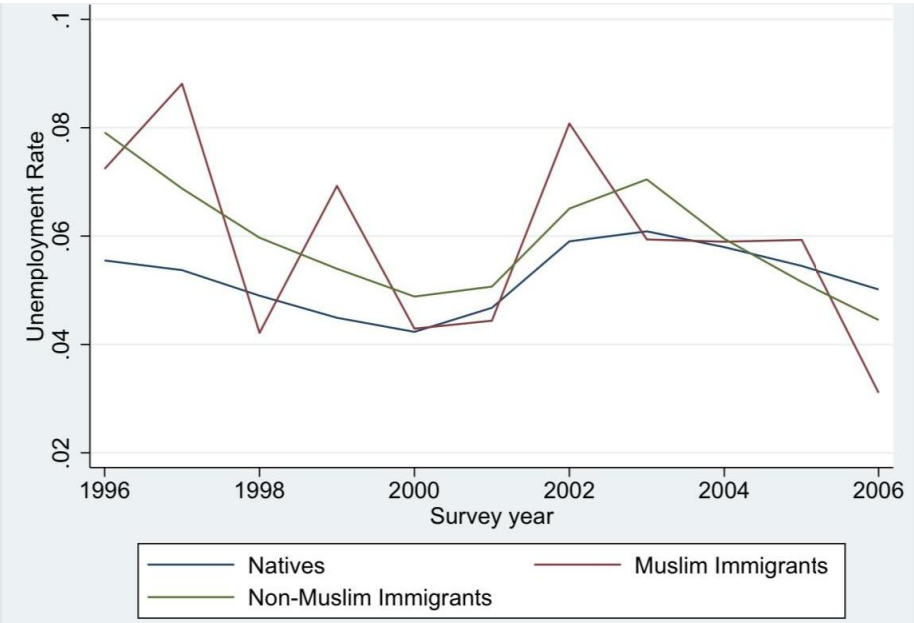

Figure 1. Unemployment rates for ethnic groups

Figure 1 shows the unemployment rates of the Muslim Immigrant group, the Non-Muslim Immigrant group, and the Native group. Through this graph we can see an obvious increase in the unemployment rate of the Muslim Immigrant group after the 9/11 event. However, it seems that the Muslim Immigrant group recovers around 2005.

The unemployment rate curve is more volatile than those of other two groups because the sample size is smaller for Muslim immigrants.

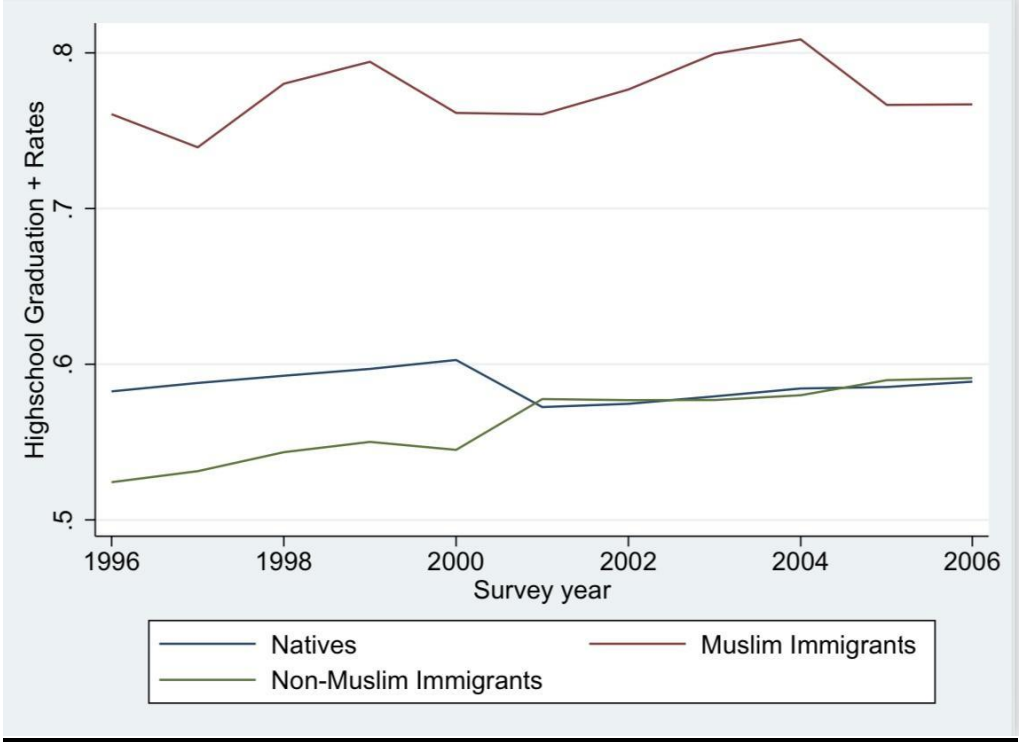

Figure 2. High School graduation rates for ethnic groups

Figure 2 shows the rates of highschool graduation and beyond for the three ethnic groups. Similar to what is seen is Table 1, Muslim Immigrants have higher education rates than other ethnic groups. It also appears that the 9/11 event did not have a significant impact on the educational attainment.

3. Empirical Framework

This paper uses a difference-in-difference framework to compare the educational, health, and earnings outcomes of Arab and Muslim immigrants compared to both immigrants from other regions, and natives. Furthermore, this research includes an event study to analyze the impacts of the attacks between the years 1997 and 2006. To identify the impact of 9/11 attack on various out of Muslim immigrants, this paper first estimates a group of difference-in-difference (DID) estimators given in the following regression question:

$$Y_{it} = \beta_0 + \beta_1 post_{jt} + \beta_2 Muslim_i + \beta_3 post_{jt} \times Muslim_i + X_{it}\delta + \varepsilon_{it} \quad (1)$$

The outcome variable Y_{it} represents different labor market, health, and education outcomes for individual i conditional on year t. Y_{it} is used as the outcome variable to measure employment, weeks worked, hourly wages, usual hours worked per week, highschool diploma attainment rates, bachelor's degree attainment rates, and rates of private and any health coverage.The variable $post_{jt}$ is a dummy variable where $post_{96t}$ examines 1996, $post_{02t}$ examines 2002, etc. $X_{it}\delta$ is a vector that captures information such as family socioeconomic status, marital status, gender, work experience, state/region. $Muslim_i$ is defined as immigrants from the following countries: Iran, Iraq, Israel, Libya, Sudan, Syria, Afghanistan, Algeria, Eritrea, Egypt, Lebanon, Palestine, Jordan, Saudi Arabia, Turkey, Cyprus, Kuwait, Yemen, and United Arab Emirates.

In the event study, the following equation was used:

$$Y_{it} = \beta_0 + \Sigma_{1997}^{2006}\beta_{1t}f_t + \beta_2 Muslim_i + \Sigma_{1997}^{2006}\beta_{3t}f_t \times Muslim_i + X_{it}\delta + \varepsilon_{it} \quad (2)$$

Once again, Y_{it} represents different labor market, health, and education outcomes for individual *i* conditional on year *t*. $\Sigma_{1997}^{2004}$is a summation variable that shows the years 1997 through 2006 being studied and represented. $\beta_2 Muslim_i$ holds the same as it did in equation one, and $\Sigma_{1997}^{2006}\beta_{3t}f_t$ represents the interaction of the years 1997-2006 and the Muslim Immigrant variable. In the bar graphs presented later in this paper, $\beta_3$is plotted against *t* to visually understand the impact the event had on the outcomes of Muslim Immigrants.

4. Simple DID Results

The estimators of eq(1) are presented in the following table.

Table 2. Simple Difference in Difference Results

Subject of Regression	Male Muslim Immigrants	Female Muslim Immigrants	Region	Educ	State	Years in US	Marital Status	Employment Status
Employment (Ages 16-65)	-0.0038852 (0.799)	0.0656263 (0.001)	X	X	X	X	X	
Employment (Ages 16-40)	-0.0246234 (0.246)	0.0557594 (0.031)	X	X	X	X	X	
Weeks Worked (Ages 16-65)	0.0718147 (0.917)	3.175651 (0.001)	X	X	X	X	X	
Weeks Worked (Ages 16-40)	-1.26245 (0.172)	3.630278 (0.003)	X	X	X	X	X	
Hours Usually Worked per Week (ages 16-65)	5.35302 (0.61)	67.97962 (0.000)	X	X	X	X	X	X
Hours Usually Worked per Week (ages 16-40)	11.23326 (0.443)	84.70664 (0.000)	X	X	X	X	X	X
Hourly Wages (Ages 16-65)	-0.2853209 (0.972)	-1.538578 (0.343)	X	X	X	X	X	X
Hourly Wages (Ages 16-40)	0.9971365 (0.438)	-3.076904 (0.215)	X	X	X	X	X	X
Rates of Any Health	0.0240675 (0.045)	0.0495111 (0.000)	X	X	X	X	X	X

Coverage								
Rates of Private Health Coverage	-0.0062504 (0.679)	-0.0029323 (0.861)	X	X	X	X	X	X
Highschool Diploma Attainment (Ages 16-21)	-0.0537326 (0.460)	0.0198953 (0.798)	X		X	X		
Bachelor's Degree Attainment (Ages 18-25)	0.0464142 (0.148)	0.0771913 (0.038)	X		X	X		

The simple difference-in-difference framework displays how the quality of life measurements reacted to the event after 2001. The "post" variable used in these regressions represents years 2002-2006. The employment regression shows a decrease in employment for Muslim males ages 16-65 and ages 16-40, with the negative impact being stronger and more statistically significant for th latter group. Female Muslim immigrants see no negative impacts on employment after the event. Both Muslim immigrant groups ages 16-65 see no negative impact on weeks worked after the event, however male Muslims ages 16-40 see a decline. Once again, the female group ages 16-40 is unaffected. All Muslim age groups and sexes see no negative impact in usual hours worked per week after the event. Finally, male Muslim immigants ages 16-65 see a decline in hourly wages after the event that males ages 16-40 do not see; however, it is worth noting the negative impact seen for the males in the 16-65 range also has a high P-value of 0.972. Both female Muslim groups see a decline in hourly wages after 9/11,with the younger female group ages 16-40 absorbing more of that impact.

Male and female Muslims see no negative impact on rates of any health coverage after the event, however there is a negative impact observed for both sexes in regards to private health coverage. For male Muslims ages 16-21 there is a slight decline in highschool diploma attainment rates, however, the female groups see no impact. Neither groups seem to be negatively impacted regarding bachelor's degree attainment.

5. Event Study Results

5.1 Labor Market Outcomes

Table 3. Weeks Worked for Muslim Immigrants

Year	Muslim Immigrants (16-65)	Muslim Immigrants (16-40)	Muslim Immigrants (M) (16-65)	Muslim Immigrants (M) (16-40)	Muslim Immigrants (F) (16-65)	Muslim Immigrant (F) (16-35)
1997	-1.121912 (0.484)	0.0315091 (0.747)	-1.011804 (0.591)	-2.176434 (0.357)	-0.3710425 (0.884)	3.163139 (0.367)
1998	1.075808 (0.496)	0.0823184 (0.643)	-0.0656778 (0.971)	-1.594463 (0.485)	2.4606 (0.336)	3.451122 (0.357)
1999	0.0144494 (0.993)	0.0411265 (0.779)	0.6862208 (0.714)	1.352589 (0.565)	-0.4118858 (0.873)	2.250515 (0.562)

2000	2.182213 (0.177)	0.0457511 (0.031)	3.376937 (0.07)	3.26477 (0.165)	0.8648624 (0.74)	2.694298 (0.49)
2001	-0.2386412 (0.868)	0.0162888 (0.816)	-0.5422346 (0.743)	-1.650833 (0.433)	-0.3151031 (0.892)	-1.804341 (0.583)
2002	0.2810564 (0.847)	0.0578371 (0.92)	-1.597577 (0.345)	-3.633836 (0.093)	2.734015 (0.241)	3.657547 (0.274)
2003	2.688443 (0.06)	0.1220421 (0.193)	0.9105586 (0.582)	-1.74695 (0.42)	5.337103 (0.019)	9.314157 (0.004)
2004	1.626179 (0.254)	0.0989074 (0.56)	0.5990422 (0.717)	-1.304889 (0.542)	3.181645 (0.164)	6.474906 (0.052)
2005	1.566308 (0.282)	0.097158 (0.134)	0.721557 (0.669)	-0.5788551 (0.791)	2.681482 (0.252)	6.966941 (0.043)
2006	1.899093 (0.189)	0.0488416 (0.536)	1.720517 (0.307)	0.0022089 (0.999)	2.918616 (0.204)	6.278239 (0.07)
Education	X	X	X	X	X	X
Age^2	X	X	X	X	X	X
Region	X	X	X	X	X	X
Marital Status	X	X	X	X	X	X

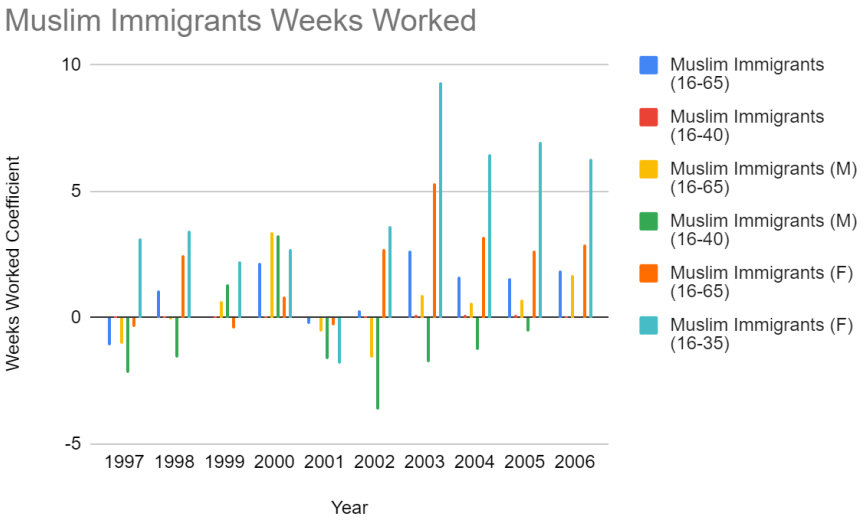

Figure 3. Muslim immigrants weeks worked

The regression on weeks worked shows a clear decline in the weeks worked for Muslim Immigrants in 2001, with a non-statistically significant P-value of 0.868. There is also a negative impact for Male Muslims age 16-40 and 16-65, as well as a decline in weeks worked for Female Muslims age 16-35 and 16-65. Both Muslim male age groups see an even steeper decline in 2002. After 2002, the Muslim male age group remains negative in 2003-2005, while showing signs of recovering.

Table 4. Muslim Immigrants Employment Rates

Year	Muslim Immigrants (16-65)	Muslim Immigrants (16-40)	Muslim Immigrants (M) (16-65)	Muslim Immigrants (M) (16-40)	Muslim Immigrants (F) (16-65)	Muslim Immigrants (F) (16-40)
1997	-0.0106619 (0.754)	-0.00251 (0.954)	0.0149971 (0.718)	-0.0128001 (0.815)	-0.0287459 (0.586)	0.0315091 (0.638)
1998	0.0583819 (0.082)	0.050284 (0.248)	0.0728003 (0.07)	0.0435112 (0.412)	0.042772 (0.421)	0.0823184 (0.225)
1999	-0.0078978 (0.818)	-0.0263407 (0.554)	0.0082154 (0.843)	-0.076269 (0.162)	-0.0241069 (0.654)	0.0411265 (0.553)
2000	0.0353515 (0.303)	0.0886508 (0.053)	0.0804142 (0.051)	0.1052782 (0.054)	-0.005098 (0.925)	0.0457811 (0.535)
2001	0.0102477 (0.737)	-0.0022992 (0.954)	0.0213684 (0.559)	-0.0087566 (0.858)	-0.0142732 (0.768)	0.0162888 (0.792)
2002	0.0015509 (0.96)	-0.0219099 (0.589)	-0.0257349 (0.491)	-0.0723853 (0.15)	0.0322917 (0.505)	0.0578371 (0.353)
2003	0.0611401 (0.044)	0.0581247 (0.147)	0.0451039 (0.217)	0.0342666 (0.495)	0.0783639 (0.099)	0.1220421 (0.045)
2004	0.0613853 (0.043)	0.035561 (0.374)	0.0430667 (0.238)	0.0043211 (0.931)	0.0791836 (0.096)	0.0989074 (0.106)
2005	0.0426859 (0.168)	0.0353594 (0.394)	0.0320657 (0.389)	-0.0171059 (0.736)	0.0468697 (0.336)	0.097158 (0.133)
2006	0.0507146 (0.098)	0.0076796 (0.854)	0.0533039 (0.152)	0.0062278 (0.905)	0.0494209 (0.301)	0.0488416 (0.444)
Education	X	X	X	X	X	X
Age^2	X	X	X	X	X	X
Region			X	X	X	X
Marital Status			X	X	X	X

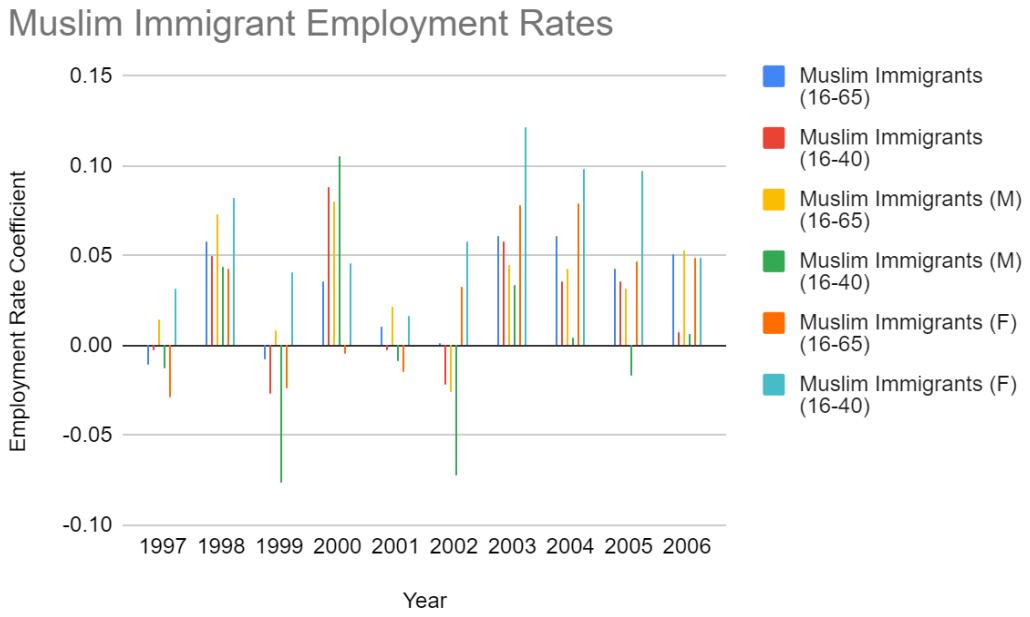

Figure 4. Muslim immigrants employment rates

The regression on overall employment shows a decline in employment for Muslim Immigrants ages 16-40, male Muslim immigrants ages 16-40, and female Muslim Immigrants ages 16-65 in 2001 with none of the results showing statistical significance. In 2002, the year directly following the event, there is a decline in employment for Muslim Immigrants 16-65, and male Muslim Immigrants in both age groups, with males ages 16-40 seeing the steepest decline. After 2002 there seems to be no remaining impact on employment.

Table 5. Muslim Immigrants Hourly Wages

Year	Muslim Immigrants (16-65)	Muslim Immigrants (16-40)	Muslim Immigrants (M) (16-65)	Muslim Immigrants (M) (16-40)	Muslim Immigrants (F) (16-65)	Muslim Immigrants (F) (16-35)
1997	5.054703 (0.729)	10.95825 (0.003)	2.76574 (0.909)	9.67876 (0.007)	9.514645 (0.061)	20.76788 (0.014)
1998	0.3741301 (0.978)	-0.7822597 (0.821)	0.7411264 (0.974)	0.4844546 (0.886)	0.0203107 (0.997)	2.960256 (0.73)
1999	1.648481 (0.906)	-0.1940609 (0.956)	2.263821 (0.923)	-0.280422 (0.936)	0.755949 (0.876)	5.730363 (0.513)
2000	-0.5838196 (0.966)	0.0572882 (0.987)	0.5507368 (0.981)	0.9302171 (0.779)	-2.082754 (0.662)	2.831473 (0.739)
2001	0.6329658 (0.956)	1.703157 (0.588)	0.9213239 (0.964)	2.365918 (0.437)	-0.1657126 (0.97)	4.533244 (0.55)
2002	-1.435765 (0.909)	-0.3190558 (0.921)	-1.467337 (0.944)	1.154195 (0.715)	-1.512892 (0.726)	1.34991 (0.86)
2003	-2.189562 (0.858)	-1.588571 (0.615)	-1.508703 (0.942)	0.9586141 (0.762)	-3.781295 (0.366)	-0.4412242 (0.952)

2004	0.6256721 (0.959)	0.8177609 (0.796)	1.010848 (0.961)	1.207677 (0.697)	0.0320221 (0.994)	5.961924 (0.429)
2005	4.145657 (0.739)	6.209901 (0.055)	4.906435 (0.814)	7.946153 (0.012)	2.643987 (0.539)	9.083738 (0.235)
2006	1.536607 (0.901)	3.065467 (0.355)	1.542314 (0.941)	4.898182 (0.132)	1.536301 (0.719)	2.279511 (0.771)
Education	X	X	X	X	X	X
Age^2	X	X	X	X	X	X
Region	X	X	X	X	X	X
Marital Status	X	X	X	X	X	X

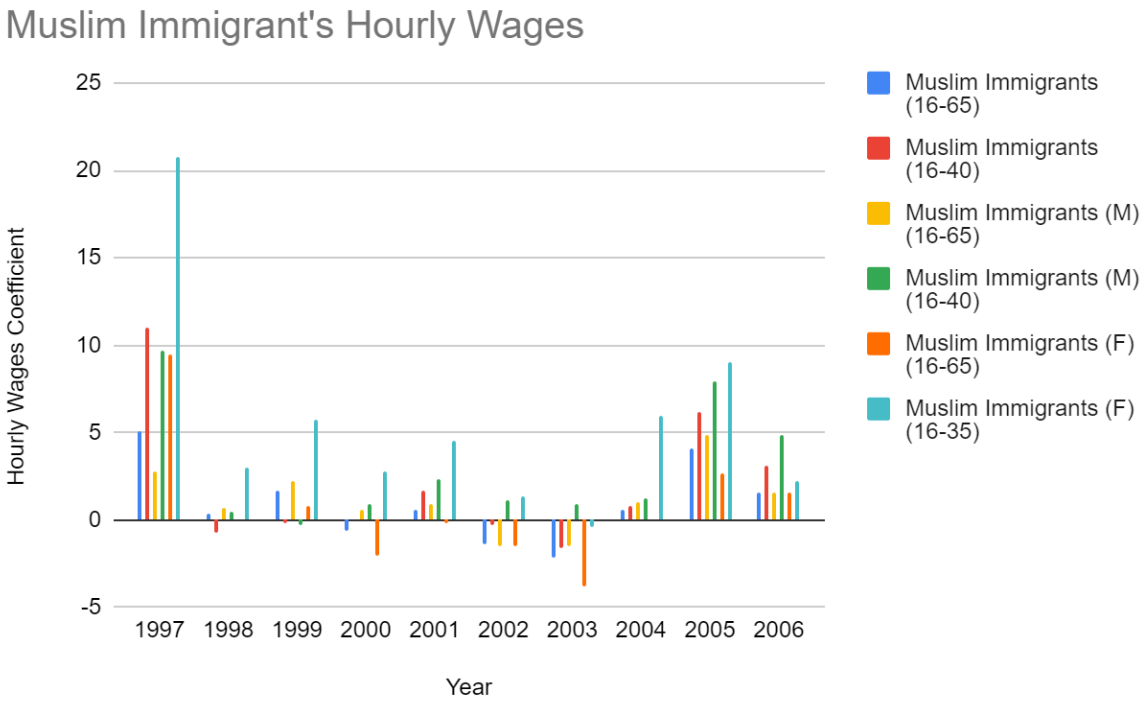

Figure 5. Muslim immigrants hourly wages

The regression for hourly wages shows a decline in the hourly wages for different groups of Muslim Immigrants in the years 2002 and 2003. In 2002 a negative impact is seen for both general Muslim Immigrant age groups, along with males ages 16-65 and females ages 16-65. None of these results were statistically significant. In 2003 there was a decline in hourly wages for the same groups as 2002, along with females ages 16-35. In 2003, the female ages 16-65 group had the steepest decline in addition to being the group closest to a statistically significant negative impact.

Table 6. Muslim Immigrants Usual Hours Worked per Week

Year	Muslim Immigrants (16-65)	Muslim Immigrants (16-40)	Muslim Immigrants (M) (16-65)	Muslim Immigrants (M) (16-40)	Muslim Immigrants (F) (16-65)	Muslim Immigrants (F) (16-40)
1997	-3.328741 (0.915)	1.672452 (0.967)	1.334747 (0.973)	-8.920216 (0.865)	-0.007599 (1.00)	21.48809 (0.722)
1998	6.545266 (0.831)	14.42153 (0.717)	3.415379 (0.93)	-12.2573 (0.809)	13.5027 (0.778)	38.90078 (0.525)
1999	82.35637 (0.008)	121.3272 (0.003)	1.507961 (0.97)	58.15601 (0.264)	206.1985 (0.00)	203.9007 (0,001)
2000	61.31519 (0.05)	30.43787 (0.467)	-24.33664 (0.538)	-54.63143 (0.294)	191.8028 (0.00)	167.4728 (0.012)
2001	51.84255 (0.063)	64.83533 (0.075)	-27.77049 (0.429)	-54.61386 (0.241)	184.4685 (0.00)	214.0697 (0.00)
2002	71.56694 (0.011)	107.7617 (0.004)	36.99687 (0.303)	63.90811 (0.182)	136.1193 (0.002)	166.8074 (0.003)
2003	39.28375 (0.155)	63.72446 (0.082)	-4.844999 (0.89)	12.87762 (0.788)	111.6532 (0.009)	121.6264 (0.027)
2004	41.84615 (0.13)	54.92323 (0.133)	-4.505795 (0.898)	-32.12419 (0.498)	120.7424 (0.005)	152.5726 (0.006)
2005	7.855347 (0.781)	30.92971 (0.415)	-50.42568 (0.158)	-33.17088 (0.492)	105.3528 (0.016)	121.9742 (0.036)
2006	56.53329 (0.043)	113.3197 (0.003)	2.621423 (0.942)	32.74005 (0.511)	139.6994 (0.001)	201.6992 (0.00)
Education	X	X	X	X	X	X
Region	X	X	X	X	X	X
Marital Status	X	X	X	X	X	X

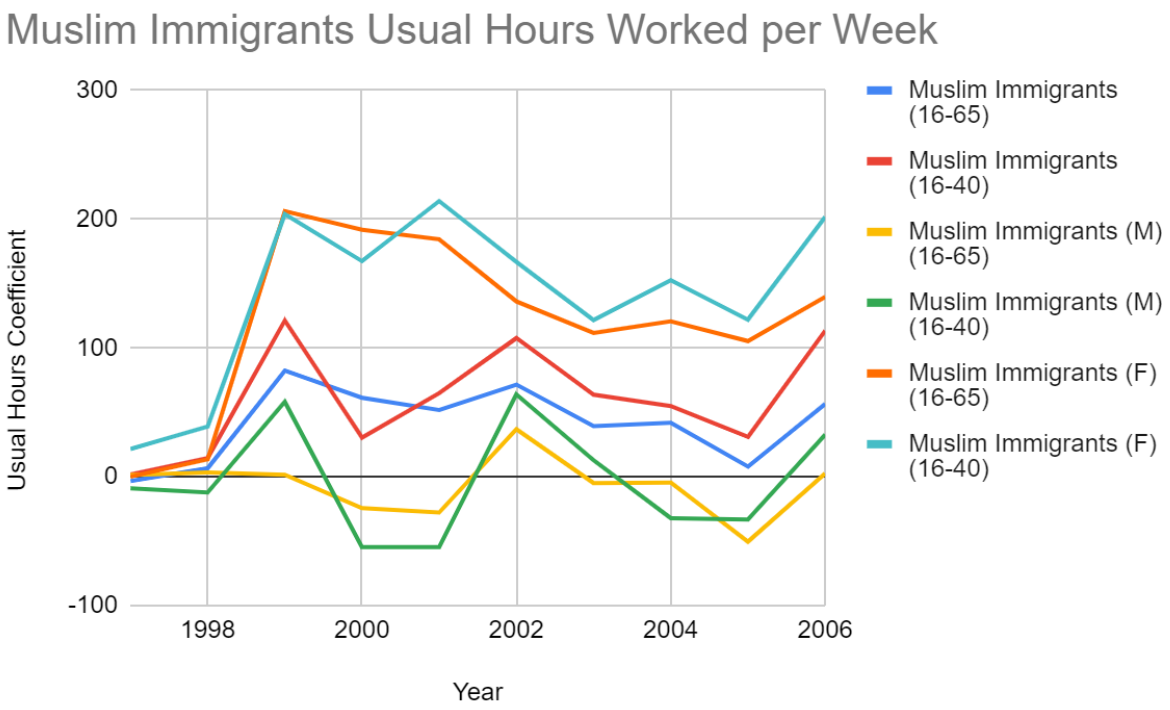

Figure 6. Muslim immigrants usual hours worked per week

The regression for hourly wages show a decline in the usual hours worked per week for both age groups of male Muslim Immigrants in 2001. None of these results were statistically significant. Most groups of Muslim Immigrants see an increase in usual hours worked per week in 2002, except for the female groups. This could be due to the male groups facing steeper declines in hourly wages and weeks worked in comparison to the female groups. Due to the lost income from these factors, the males were more likely to pick up more hours.

5.2 Education Outcomes

Table 7. Muslim Immigrants High School Diploma Attainment Rates

Year	Muslim Immigrants	Male Muslim Immigrants	Female Muslim Immigrants
1997	-0.0247607 (0.783)	-0.2599341 (0.085)	0.0944751 (0.4)
1998	0.0491504 (0.613)	0.0177249 (0.896)	0.0290567 (0.849)
1999	0.0515847 (0.951)	-0.016416 (0.906)	0.0948136 (0.488)
2000	0.1407458 (0.152)	0.170142 (0.223)	0.0589541 (0.667)
2001	0.0328575 (0.69)	-0.0487921 (0.695)	0.0874811 (0.435)

2002	0.0504009 (0.537)	-0.024102 (0.844)	0.1008171 (0.374)
2003	0.1055123 (0.2)	-0.0154956 (0.901)	0.202519 (0.068)
2004	0.1208833 (0.147)	0.0297914 (0.817)	0.1826412 (0.096)
2005	-0.0194984 (0.826)	-0.1229471 (0.359)	0.0584328 (0.626)
2006	0.0642037 (0.455)	0.0463078 (0.719)	0.0427175 (0.718)
Region	X	X	X
State	X	X	X
Age^2	X	X	X

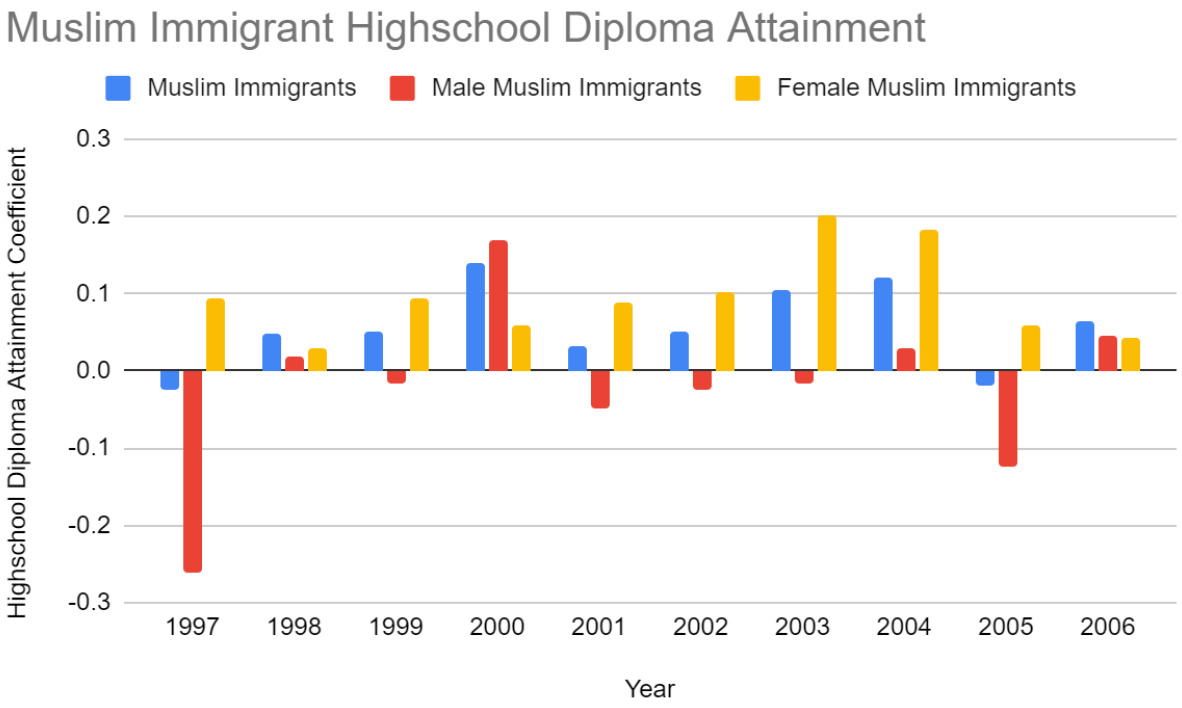

Figure 7. Muslim immigrant's highschool diploma attainment

Male muslim immigrants ages 16-22 see a decline in highschool diploma attainment in 2001-2003. After going positive in 2004, there is another steep decline in the highschool diploma attainment rates of Muslim male immigrants in 2005. This could possibly be due the July 2005 London bombing attacks, however more research would need to be completed in order to reach that conclusion.

Table 8. Muslim Immigrant's Bachelors Degree Attainment Rates

Year	Muslim Immigrants	Male Muslim Immigrants	Female Muslim Immigrants
1997	0.0037185 (0.949)	-0.0496482 (0.543)	0.0559854 (0.498)
1998	0.0024447 (0.967)	-0.0280338 (0.7)	0.0144559 (0.878)
1999	-0.0071822 (0.908)	0.0077856 (0.921)	-0.055212 (0.572)
2000	0.0889912 (0.155)	0.0568387 (0.467)	0.1073626 (0.283)
2001	0.0856622 (0.129)	0.0173331 (0.812)	0.1538156 (0.073)
2002	0.0701666 (0.215)	-0.0135537 (0.849)	0.1603524 (0.076)
2003	0.0993549 (0.069)	-0.0005691 (0.994)	0.1879616 (0.021)
2004	0.0794973 (0.16)	0.0851629 (0.256)	0.0776032 (0.354)
2005	0.073446 (0.221)	0.1816684 (0.026)	0.0047113 (0.957)
2006	0.1555851 (0.008)	0.0498644 (0.519)	0.2442326 (0.005)
Region	X	X	X
State	X	X	X
Age^2	X	X	X

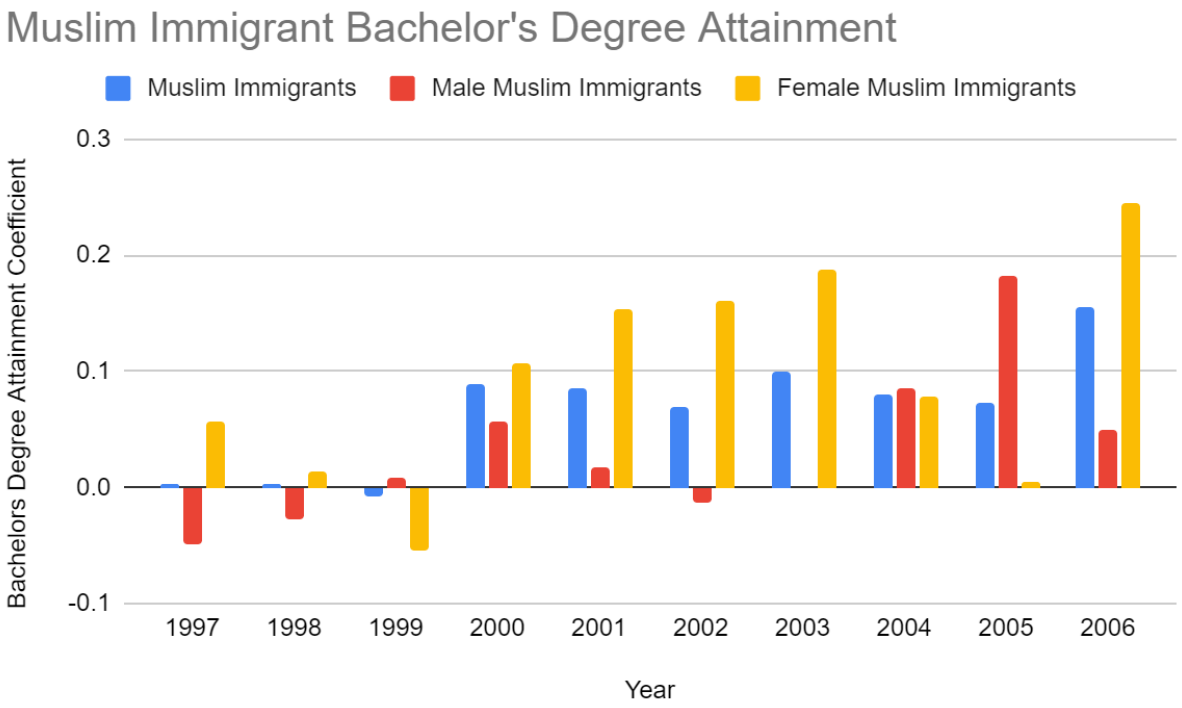

Figure 8. Muslim immigrants bachelors degree attainment rates

The regression results for bachelor's degree attainment rates of Muslim Immigrants ages 18-24 show a negative impact only for the male group in 2002, with very low rates compared to the others in 2003, with a full recovery by 2004.

5.3 Healthcare Outcomes

Table 9. Muslim Immigrants Rates of Any Health Coverage

Year	Muslim Immigrants	Male Muslim Immigrants	Female Muslim Immigrants
1997	-0.0021777 (0.928)	0.0049688 (0.881)	-0.0137562 (0.691)
1998	-0.0467757 (0.049)	-0.0388917 (0.234)	-0.0566105 (0.102)
1999	-0.0419208 (0.083)	-0.0125943 (0.706)	-0.0779279 (0.027)
2000	-0.0433783 (0.071)	-0.0428304 (0.192)	-0.0429216 (0.225)
2001	-0.0099003 (0.647)	0.0012444 (0.966)	-0.0235045 (0.463)
2002	0.0227615 (0.298)	0.0236338 (0.432)	0.0195685 (0.541)

2003	-0.0047562 (0.824)	-0.0124956 (0.673)	0.0000506 (0.999)
2004	0.027909 (0.194)	0.0165716 (0.575)	0.0382901 (0.222)
2005	0.0144109 (0.506)	0.0172764 (0.561)	0.0088213 (0.782)
2006	0.0157404 (0.464)	0.0172246 (0.56)	0.0104314 (0.739)
Education	X	X	X
Region	X	X	X
State	X	X	X
Age^2	X	X	X

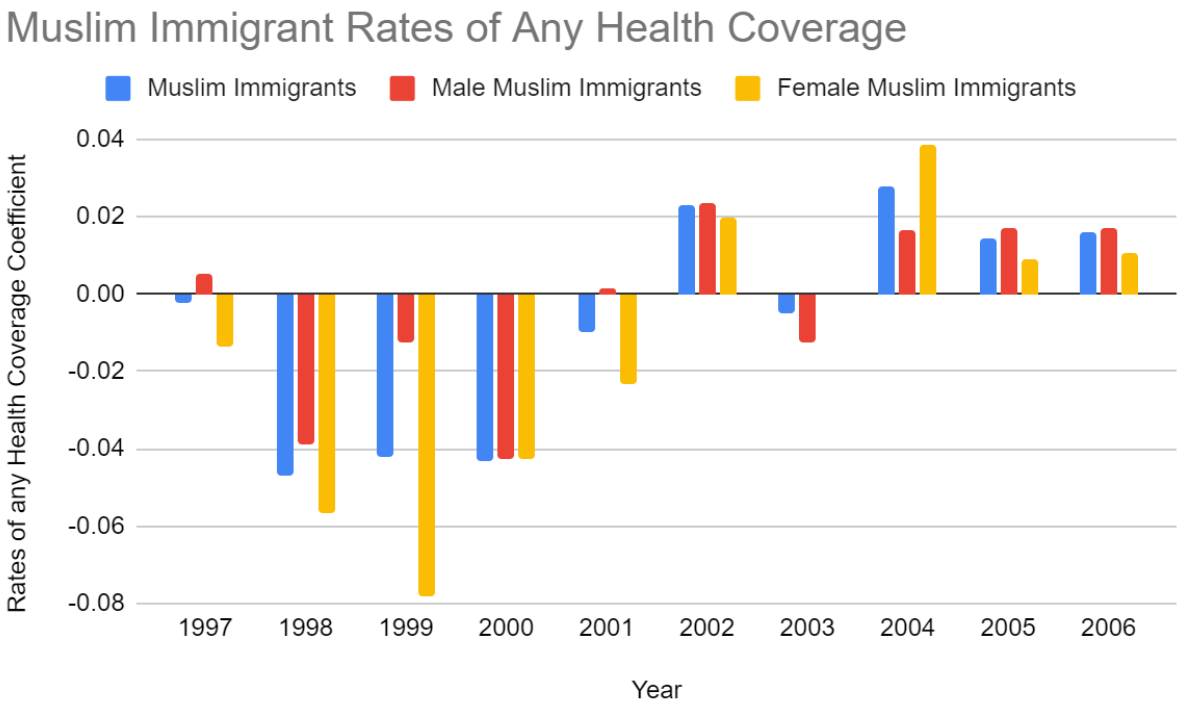

Figure 9. Muslim immigrants rates of any health coverage

Table 10. Muslim Immigrants Rates of Private Health Coverage

Year	Muslim Immigrants	Male Muslim Immigrants	Female Muslim Immigrants
1997	-0.0282416 (0.369)	0.0015404 (0.971)	-0.0657991 (0.158)
1998	-0.0740026 (0.018)	-0.0183147 (0.662)	-0.1419284 (0.002)
1999	-0.080225 (0.012)	-0.0431678 (0.313)	-0.1262276 (0.008)
2000	-0.0669726 (0.034)	-0.0284639 (0.499)	-0.1141064 (0.017)
2001	-0.0446625 (0.117)	-0.0180573 (0.633)	-0.0790311 (0.067)
2002	-0.043153 (0.133)	-0.018607 (0.629)	-0.0765263 (0.076)
2003	-0.0582883 (0.039)	-0.0447691 (0.238)	-0.0789582 (0.061)
2004	-0.0351762 (0.213)	-0.015518 (0.682)	-0.0623778 (0.14)
2005	-0.0679074 (0.017)	-0.034009 (0.372)	-0.1106081 (0.01)
2006	-0.0349942 (0.215)	-0.0021903 (0.954)	-0.077288 (0.068)
Education	X	X	X
Region	X	X	X
State	X	X	X
Age^2	X	X	X

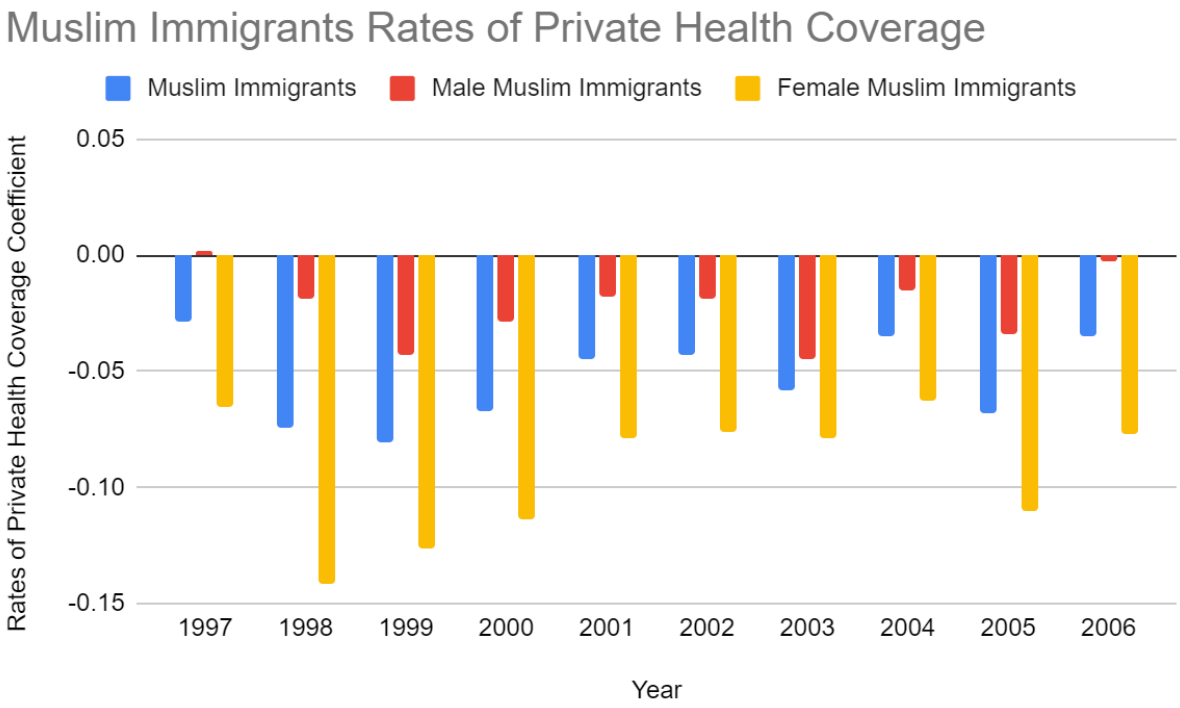

Figure 10. Muslim immigrants rates of private health coverage

While rates of any form of health coverage seem to increase in 2002 for all Muslim groups, the rates of private health coverage stay consistently negative between 1997 and 2006. Rates of any health coverage seem to decline in 2003, but then begin to rise again in 2004. This is an inverse reaction compared to the employment, and could possibly be a result of the decline in employment and hourly wages. It could also possibly be correlated with anti-Muslim crime caused by the event. As stigma resulted in more Muslims losing income and becoming more fearful for themselves and their health, they seeked out public healthcare options.

6. Conclusion

The unfortunate events that occurred on September 11th, 2001 changed the lives of many and even reshaped many of the processes and institutions used today. While fear and discomfort is a natural and expected response to terrorism, the fear and discomfort should not cause people who had no involvement to be outcasted and discriminated against. Understanding any negative impacts on Arab and Muslim Immigrants directly following the event, even if they were short-lived impacts, should bring about more consideration and conversation regarding how groups can be protected. Currently, the COVID-19 pandemic has seemingly increased hate crimes and discrimination towards Asian immigrants. Whether or not these horrible, discriminatory events being reported in the news are bleeding into labor market outcomes, educational attainment, and healthcare coverage is yet to be seen, this topic should be studied and understood as well. Race, religion, birth place, and physical appearance should not lead to suffering just because an unfortunate event arose from those with similar features.

The labor market outcomes for Muslim Immigrants following the 9/11 event show a negative impact for certain groups in all areas except usual hours worked per week, which once again could be due to the decreases in hourly wages. While not all results were statistically significant, these negative impacts could be prevented in the future by implementing policies encouraging employees to speak up about their wages and employment outcomes, especially if they may be experiencing discrimination. However, it is also worth considering the possibility of Muslim Immigrants decreasing their participation in the labor force by choice, for fear of discrimation. Whether or not the

employers were discriminating against Muslims or Muslims removed themselves on their own accord, these negative outcomes could have potentially been prevented with proper policies and awareness of the issue.

The educational outcomes showed a negative impact for male Muslim immigrants, which could be due to the ages of highschoolers and college students being closer to those of the terrorists. Once again, while it is unclear whether or not young male Muslim immigrants removed themselves from eucational opportunities, or the educational institutions discriminated against them, the negative impact is unfortunate. Despite the stigma and fear, young Muslim men deserve equal opportunities of education. In the future, affirmative action programs, college recruitment programs, and public school funding could all be restructured to increase participation of marginalized groups, especially when current events create more hardship for those groups.

The regression results regarding healthcare revealed that Muslim Immigrants do not seem to have high rates of private health coverage, regardless of the terrorist attacks. Furthermore, rates of any health coverage increased after the event, possibly due to losses in income and increased fear for their own health and safety.

7. References

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