

Economic Impacts of *Roe v. Wade*

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Abstract

One in four women in the U.S. will have an abortion by the time they are 45. Despite being nationally legalized in 1973 with the Supreme Court's ruling of *Roe v. Wade*, abortion legalization still remains a polarizing political debate. Abortion legalization is an issue of public health significance because evidence shows that legal abortion reduces negative health outcomes for both women and their children. Currently, the debate surrounding abortion lacks empirical evidence to inform policy. This essay includes a literature review exploring the impacts of *Roe v. Wade* on several economic indicators including fertility, poverty, and female labor force participation. This essay also includes an analysis on the impact of *Roe v. Wade* on the female labor force participation rate, comparing rates of female labor force participation in states that legalized abortion prior to *Roe v. Wade* and in states that legalized abortion after in 1973. This analysis shows that states that did not legalize abortion until 1973 saw a greater increase in female labor force participation when compared to other states, proving that abortion legalization contributed to female labor force participation. With the results of the 2016 election, the repeal of *Roe v. Wade* has come into discussion and for the first time, it is a real possibility. Ultimately, this essay can be used to inform the current abortion debate and influence policy to ensure a woman's right to choose to have an abortion.

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1.0 Introduction

The Guttmacher Institute reports that nearly one in four women living in the U.S. will have an abortion by the time they are 45 (Jones & Jerman, 2017). While the topic of abortion has been hotly debated in politics, the practice is not new. Abortions have been performed since the beginning of time and only recently have they been under such scrutiny. *Roe v. Wade*, a case decided by the Supreme Court in 1973, granted the right to abortion for all women, regardless of their state of residence. Before the ruling, abortion legislation varied by state, placing women in states that outlawed abortion at an undue burden and risk. Since the passing of *Roe v. Wade*, the United States has seen immense improvement in maternal and child health outcomes and women's socioeconomic statuses.

Currently, much of the political debate surrounding abortion is based on moral beliefs instead of empirical evidence that proves its economic impact. This essay explores specific economic indicators that are affected by abortion legalization through *Roe v. Wade* to open the abortion debate to include objective evidence based on fact. This essay will do so by conducting an in-depth, critical literature review of the impacts that abortion legalization has had on female fertility, poverty, and female labor force participation rate in the United States and how those factors have shaped the living and health outcomes of women.

Due to lack of existing research on how *Roe v. Wade* directly impacted the female labor force participation rate, this essay includes a novel analysis of the impact of abortion legalization using census data on the female labor force and state abortion restrictions before and after the passage of *Roe v. Wade*.

Following this introductory section, this essay provides background on abortion law in the United States as well as a detailed description of *Roe v. Wade* itself. The background section also discusses current political attacks on the legislation and recent attempts by states to push the Supreme Court to readdress the case. Lastly, this section examines public attitudes and beliefs on abortion and how those can impact future legislation.

The data and methods section introduces the data used for analysis in this essay by categorizing variables such as race, education level, and state legislation. Included in this section is a detailed examination of the trends of both male and female labor force participation and introduces the regression equation used for the analysis.

The results section discusses the findings of the critical literature review, focusing on what existing research has to say about the impacts of abortion legislation on three specific economic indicators: fertility, poverty, and the female labor force participation rate. This section also includes the results of the regression equation. The following section discusses what we as a country can take from the results, examining what these results mean and how we can use them to inform policy in the United States, as well as an explanation of what the results of the regression equation mean.

Finally, the essay concludes with a recognition of limitations that impacted the results of the analysis, as well as informed policy recommendations, directions for future research, and an explanation of *Roe v. Wade*'s significance as a public health issue. While we can take these results for what they are, it is of utmost importance that we also recognize the significance of abortion not as a moral debate, but as a public health necessity.

2.0 Background

While *Roe v. Wade* nationally legalized abortion in the United States, the history of abortion began long before this historic 1973 ruling. In fact, legal abortion was not a new concept to the United States when the Supreme Court handed down its ruling in 1973. Abortion has been an integral practice for the health and well-being of women in this country since its declaration in 1776 and has experienced times of both legality and illegality throughout the history of the United States.

2.1 Before *Roe v. Wade*

From the time that the first settlers arrived in what is now the United States, abortion was legal. Once the Constitution was signed and adopted, abortion legality was determined by fetus “quickening,” a term used to describe the first time a woman could feel the fetus move inside her uterus. At the time, abortion was legal up until “quickening” (National Abortion Federation, 2015).

Starting in the late 1800s, individual states started to pass laws restricting abortion. At that time, modern medicine was not yet developed and women undergoing abortions were at an increased risk of death due to high infection rates and improper surgical methods used during procedures (National Abortion Federation, 2015). Many women living in states where abortions were illegal still sought the practice through unsafe means, often not performed by a medical

professional and not in a healthcare setting. These types of abortions caused harm to women due to the lack of medical and sanitary care provided during and after the procedures (Gold, 2003).

It is estimated that before the national legalization of abortion in 1973, approximately 200,000 to 1.2 million illegal abortions were performed each year, with an estimated 829,000 of those abortions being self-induced (Gold, 2003). Since abortion was illegal, these numbers are hard to predict and report, meaning the actual number could be much more. Although it is impossible to determine the actual number of illegal abortions that were performed before *Roe v. Wade*, the number of maternal deaths for which the cause was listed as abortion indicates that the prevalence was high. In 1930, 2,700 women died from complications resulting from illegal abortions, about 18% of all maternal deaths (Gold, 2003). Because many women likely did not disclose that they obtained an abortion because it was illegal at the time, the actual number of women who died because of such complications is likely much higher. While some forms of contraception were available at this time, abortion provided an additional avenue for family planning, especially important when existing contraceptive methods failed.

Beginning in 1966, some states began liberalizing their laws on abortion with a variety of exceptions for which an abortion would be legal, including in cases of rape, incest, or danger to the health of the mother (National Abortion Federation, 2015). In 1970, four states (Hawaii, Alaska, New York, and Washington) repealed their abortion laws to allow women to request an abortion for any reason, as long as that request was made before the fetus was viable¹. Before the 1973 ruling, abortion was illegal in 30 states (Kliff, 2013).

¹ Fetal viability is the ability of the fetus at a stage of development to survive on its own outside of the uterus (Pignotti, 2009).

Before abortion became legal in all 50 states, women wanting abortions who lived in states where it was outlawed had to travel to a state where it was legal. Traveling across state lines to obtain an abortion was both physically and financially demanding for pregnant women; therefore, only women with significant financial means were able to take advantage of this practice.

2.2 *Roe v. Wade*: The Case and the Ruling

The case of *Roe v. Wade* began in 1970 in Texas, where abortion was outlawed with the only exceptions being threat to the life of the mother. Nancy McCorvey (alias Jane Roe) was a single woman who wanted a safe abortion performed by a medical professional but did not have the financial means to travel outside of Texas to obtain one in a state where abortion was legal. She took legal action against the District Attorney of Dallas County, Henry Wade, in federal court (Encyclopedia Britannica, 2019).

The case was appealed up to the Supreme Court, and on January 22, 1973, the Supreme Court ruled against the existing Texas law and handed down its historic ruling in a 7-2 decision, legalizing abortion in all 50 states. The Supreme Court's decision held that a woman's right to abortion was protected under the 14th Amendment of the Constitution, ruling that an abortion falls under a woman's right to privacy and liberty under the Due Process Clause (Waxman, 2018). However, in the interest of preserving the state's interest in protecting the health of women and prenatal life, (Chemerinsky, 2019) the Supreme Court provided rules accompanying each trimester of a pregnancy. During the first trimester of a pregnancy, states were not allowed to restrict abortions for any reason. Once the second trimester began, states were allowed to place "reasonable" restrictions on abortions. At the third trimester, states were permitted to outlaw

abortion completely as long as the health or life of the mother were not at risk (Chemerinsky, 2019).

Roe v. Wade remains one of the most far-reaching cases by the Supreme Court; its ruling solidified a woman's right to choose to have an abortion and allowed women across the country, regardless of their state of residence, to decide the outcome of their unintended pregnancies with the support of the United States.

2.3 After *Roe v. Wade*

After the ruling of *Roe v. Wade*, the legal abortion rate in the United States jumped from 16.3 (per 1,000 women aged 15-44) in 1973 to 29.3 in 1980 (Guttmacher Institute, 2014). Because the procedure was legal, more women received abortions in doctor's offices and more were documented in health records.

Because legal abortion provided women with a safe way to terminate their pregnancies, maternal mortality rates and deaths caused from complications relating to abortion declined after the ruling of *Roe v. Wade*. In 1972, the United States' rate of maternal mortality was 34 deaths per 100,000 live births. That rate dropped by 50% to about 17 deaths per 100,000 live births just one year after the ruling in 1973 (Coble, 1992). While the decrease in deaths related to abortion can partially be attributed to improved medical technology and antibiotic advancement, the availability of legal abortion is also responsible. Between 1973 and 1985, maternal deaths experienced from legal abortion decreased from 3.3 to 0.4 deaths per 100,000 procedures (Coble, 1992).

Not only did the rate of women obtaining abortions change after *Roe v. Wade*, but so did the characteristics of those obtaining abortions. Women who were nonwhite and unmarried had

easier access to abortion services once it became legal. Between 1972 and 1999, the proportion of nonwhite women obtaining abortions nearly doubled from 23% to 44% and the proportion of unmarried women receiving abortions increased from 70% to 81% (Cates, Grimes, and Shulz, 2018).

Because *Roe v. Wade* legalized abortion across the country, allowing abortion in all states, more women obtained an abortion in their home states after the ruling compared to before the ruling. In 1972, one year before the ruling, less than 60% of abortions were performed in the woman's home state. Between 1980 and 1999, 90% of abortions were performed in the woman's state of residence (Cates et al., 2018). Eliminating this barrier to access allowed more women to receive the healthcare that they needed, especially those with financial restrictions that would have impeded them from obtaining abortions before the ruling.

An additional characteristic that changed after *Roe v. Wade* was the type of abortion performed. The Supreme Court ruled that abortions were allowed without restriction in the first trimester. In 1970, 25% of abortions were performed after the first trimester (13 weeks' gestation or later). By 1980, that number reduced to 10%, and 50% of those were performed before the mother was eight weeks pregnant (Cates et al., 2018). Without barriers to access, women were able to obtain abortions earlier and more easily than before the ruling, making abortions safer.

Beginning in 1990, the United States' abortion rate has experienced a steady decline, likely due to the increased availability of contraceptives as well as social changes impacting women's decisions of whether and when to have children. In 1990, the abortion rate was about 27.0, dropping to just above 19.0 in 2000, and reaching 16.9 in 2011 (Guttmacher Institute, 2014). As of 2017, the U.S. abortion rate has continued to drop, reaching close to 13.5 (Nash and Dreweke, 2019).

Today, more than 1.2 million abortions are performed every year and over half of unintended pregnancies end in abortion (Jones & Kooistra, 2008). Access to legal and safe abortion after *Roe v. Wade* has reduced maternal mortality rates in the United States and has allowed more women with diverse demographics to reach full body autonomy and independence.

2.4 Current Attacks on *Roe v. Wade*

Although *Roe v. Wade* legalized abortion across all 50 states, the topic of abortion still remains a heated political debate since the Court's ruling. However, abortion was not always a partisan issue. In the 1970s and 80s, a string of Republican lawmakers used anti-choice rhetoric to galvanize social conservatives, specifically Roman Catholics, into supporting Republican candidates. Abortion soon became an important electoral issue, amplifying its political significance (McKeegan, 1993). Today, abortion has remained an important litmus test for American politicians.

In 1976, the Hyde Amendment was passed, which blocks Medicaid funding for abortion services. This legislation puts undue burden on women with low incomes, who make up almost half of abortion patients (Guttmacher Institute, 2019). In addition, Medicaid is the source of healthcare funding for one in five women of reproductive age, limiting their abilities to receive safe, legal abortions (Planned Parenthood, 2019). The Hyde Amendment still exists today, but is often discussed by Democratic candidates in the 2020 election campaign, specifically regarding their plans to end it.

During presidential campaigns, abortion is often an important topic of debate, and the 2016 election was no exception. President Trump himself and Vice President Pence both expressed their

keen interest in repealing *Roe v. Wade*, and with their Electoral College win, those interests have taken center stage. After the inauguration of President Trump, attacks on abortion access and reproductive rights increased in both number and intensity. In 2017, the Republican Party retained control over the House of Representatives and the Senate and a majority of states elected a Republican governor, a win for anti-choice politicians. In 2017, the first year of President Trump's presidency, 63 new restrictions on abortion were passed by 19 states, the highest number of restrictions passed in a single year since 2013 (Nash, Gold, Mohammed, Ansari-Thomas, Cappello, 2017).

In 2018, Justice Brett Kavanaugh, a lifelong opponent of abortion rights with a lengthy track record of voting against abortion access, was approved for the Supreme Court. The Supreme Court now had a 5-4 conservative majority, leaving an open path for states to introduce legislation targeting *Roe v. Wade*. The year 2018 saw a wave of abortion bans across the country, some as strict as six-week bans, based on the time a fetal heartbeat can be detected. Louisiana and Mississippi also introduced bills banning abortion at 15 weeks (Nash, Gold, Ansari-Thomas, Cappello, Naide, Mohammed, 2018).

These types of attacks ramped up in 2019, starting with President Trump's domestic gag rule. This rule prevented Title X health centers from giving patients health information regarding abortion. If they did, they would be in jeopardy of losing their federal funding (Ollstein, Roubein, 2019). This same year, Georgia, Alabama, and Missouri introduced some of the strictest abortion bans in history. Georgia and Missouri both enacted six-week bans, while Alabama's took steps even further. Its legislation, titled the "Human Life Protection Act," would ban all abortions at any stage, without exceptions for rape or incest, and would criminally punish doctors who perform them (AP News, 2019).

States can be characterized by degree of acceptance or hostility towards abortion. These classifications were developed by determining whether or not a state had any of six abortion restrictions or supportive abortion policies in place at the time of analysis. As of 2019, 29 states show hostility towards abortion, with six described as “very hostile,” 16 that are “hostile,” and 7 that “lean hostile” (Nash, 2019). The six abortion restrictions were “1) ban pre-or postviability abortions in violation of constitutional protections, 2) require in-person abortion counseling followed by a waiting period, 3) restrict Medicaid coverage for abortion, 4) prohibit the use of telemedicine to provide medication abortion, 5) limit access to abortion for those younger than 18 without parental involvement, and 6) impose unnecessary and onerous abortion clinic regulations.” The six supportive abortion policies were “1) affirm a right to abortion in the state constitution, 2) establish a legal standard that protects access to abortion, 3) guarantee abortion coverage through Medicaid, 4) allow advanced practice clinicians to provide abortion by law or Attorney General Opinion, 5) mandate private health insurance plans cover abortion, and 6) protect access to abortion clinics” (Nash, 2019).

Based on those criteria, states were characterized by level of hostility. These levels of hostility have increased from those reported in 2000 and 2010, showing that political hostility towards this legal practice is gaining traction. Because of these changes in hostility, 58% of women currently live in a state that is hostile towards abortion rights, with only 23% of women living in states supportive of abortion rights (Guttmacher Institute, 2019).

Most recently, over 200 Republican members of the House of Representatives and the Senate submitted a brief to the Supreme Court urging it to reconsider its settled decision on *Roe v. Wade* as it decides the fate of *June Medical Services LLC v. Gee*, a case directly targeting abortion rights in Louisiana.

2.5 Public Attitudes towards Abortion

Although *Roe v. Wade* has seen increased attacks in the political sphere, public support for abortion remains largely unchanged. In 2019, Pew Research Center reported that public support for legal abortion boasted its highest rating in over 20 years, with 61% of respondents saying that abortion should be legal in all or most cases (Pew Research Center, 2019). Even more (70%) people oppose overturning *Roe v. Wade* (Pew Research Center, 2019). However, support for or against abortion rights depends greatly on religious affiliation, political party, gender, age, and level of education.

Religious affiliation is perhaps the most influential factor related to stance on abortion rights, with 83% of people without any religious affiliation saying that abortion should be legal in all or most cases. White evangelical Protestants had the highest rate of opposition with 77% of people in that category saying that abortion should be illegal in all or most cases (Pew Research Center, 2019).

Party affiliation is another factor that greatly influences a person's attitude towards abortion rights. Sixty two percent of people identifying as Republican believed that abortion should be illegal in all or most cases, while 82% of Democrats reported believing that the practice should be legal in all or most cases (Pew Research Center, 2019).

Age is a factor that also impacts a person's beliefs regarding the legality of abortion. Seventy percent of adults under 30 years old believe that abortion should be legal in all or most cases. Support for legal abortion and age have an inverse relationship; as age increases, support decreases. Abortion is supported by 64% of people between the ages of 30-49, 54% of people between 50-64, and 55% of people above age 65 (Pew Research Center, 2019).

Education plays an important role in support for abortion, with 70% of college graduates supporting legal abortion in all or most cases and 54% of people with a high school diploma or less showing support. Gender does not seem to impact support, with 60% of women supporting legal abortion and 61% of men saying the same (Pew Research Center, 2019).

Despite societal support for abortion rights and access, women obtaining abortions still experience stigma and judgment from others, which has the potential to negatively impact health outcomes. While it is difficult to measure abortion stigma, a study completed by the Guttmacher Institute reported that women still have fears of being perceived as “immoral” because of their abortions (Cockrill, Upadhyay, Turan & Foster, 2013).

Public attitudes and stigmas towards legal abortions and women who obtain abortions are important factors in abortion policy, as politicians are elected to represent their constituents. In 2016, 45% of voters reported that abortion is “one of many factors” they considered when voting. Seventeen percent of voters state that in the 2020 election they will vote only for a candidate with the same views as them on abortion. While 17% might seem small, it is the largest percentage of people with that voting strategy that the Gallup Poll has reported in many election cycles (Saad, 2019). Because of this, as public support for abortion increases, political will to uphold and protect *Roe v. Wade* might also change.

3.0 Data and Methods

3.1 Search Strategy

A portion of this essay is a literature review to explore the impacts that *Roe v. Wade* had on specific economic indicators: fertility, poverty, and female labor force participation. This review was conducted using two search sources in January 2020: PubMed and Google Scholar. Due to the lack of existing research, only two criteria were used for inclusion: the articles had to be full text and the research had to be conducted in the United States. For Google Scholar, due to the number of results produced for each search, only articles appearing on the first three pages were included in the search. Then, articles were assessed for relevance.

The first search included the terms “*Roe v. Wade* OR abortion” and “fertility.” This search produced about 139,000 articles from Google Scholar and five from PubMed. After applying the exclusion criteria to both searches, 14 articles were deemed relevant to the review from Google Scholar and one from PubMed.

The second search included the terms “*Roe v. Wade* OR abortion” and “poverty.” This search produced three articles from PubMed and about 3,180 articles from Google Scholar. None of the three articles produced from PubMed was deemed relevant; out of the first three pages of the Google Scholar search, eight articles were identified as useful and relevant to the literature review.

The third search included the terms “*Roe v. Wade*” and “female labor force participation.” This final search produced no results in PubMed and 202 in Google Scholar. A majority of the results from Google Scholar mentioned only contraception, not abortion. Because abortion is

closely related to contraception, these articles were included due to their relevance and their ability to provide insight to the topic and methods for future research. One article was included that studied international abortion policies due to its ability to be compared to the United States. A total of three articles were deemed relevant in this search and were included in the review.

3.2 Labor Force Data

Due to the lack of existing research and literature on the impact that abortion has on female labor force participation rate, trends in female labor force participation rate before and after the legalization of abortion in 1973 are examined to determine the impact that *Roe v. Wade*'s passage had on the female labor force. To do this, census data from the years before and after 1973 will be reviewed to assess the differences in female labor force participation rate. The United States has seen an increase in the female labor force participation rate that is likely due to factors other than the legalization of abortion. For example, the shifting of social norms and the change in traditional gender roles could play a part in the increase in female labor force participation. Because of this, it is important to use a method that aims to find the specific effect of abortion legalization aside from other factors that might be causing more women to enter and stay in the labor force.

A difference-in-difference method was used to study the impact that abortion legalization has on female labor force participation rates. This method accounts for other potential confounding variables that could have also influenced the changes in the female labor force participation rate. This is where the study deviates from the research done by Bloom, Canning, Fink, and Finlay (2007). They studied differences between countries, whereas this research studies differences

between individual states in the United States whose abortion policies have varied historically. There are far fewer differences between states than there are differences between countries. Comparing the data between states reduces confounding variables and improves the validity of abortion legislation's impact on the female labor force participation rate. Before the ruling of *Roe v. Wade*, some states had already made abortion legal (under certain conditions). In order to accurately assess the effect that abortion legalization has had on the female labor force participation rate, this research looks at the differences between female labor force participation rate in states that legalized abortion before *Roe v. Wade* and states that did not legalize abortion until after the ruling of *Roe v. Wade*. Differences in these labor force participation rates will better represent the effect that the legalization of abortion had on female employment.

Before the 1973 ruling of *Roe v. Wade* that legalized abortion across all 50 states, the decision on whether or not abortion was legal was left for individual states to make. Before beginning the analysis of the law's impact, it is important to categorize states by their abortion legislation in order to account for other factors that may contribute to changes in female labor force participation rates.

Before 1973, 30 out of 50 states completely banned abortion, regardless of circumstance; in one state, it was legal only in cases of rape; in two states it was legal if the pregnancy was a danger to the health of the mother; in 13 states it was legal in cases of rape or incest, if the pregnancy was a danger to the health of the mother, or if there was likely damage to the fetus; and in four states abortion was legal upon request (Kliff, 2014). Specific states' laws are displayed and categorized in Figure 1 below. To account for each state and to increase the sample size, thus improving the reliability of results, data from each state are used. Although there were four

different categories of laws for abortion, for simplicity, complete legalization is treated as the only category of legal abortions. For example, some states, as stated previously, allowed abortions only in the case of danger to the health of the mother. Because this does not allow women the complete freedom to choose to have an abortion, states with that law are included in the category of states where abortion was illegal. With those guidelines, before 1973, four states had legal abortion and the remaining 46 states did not.

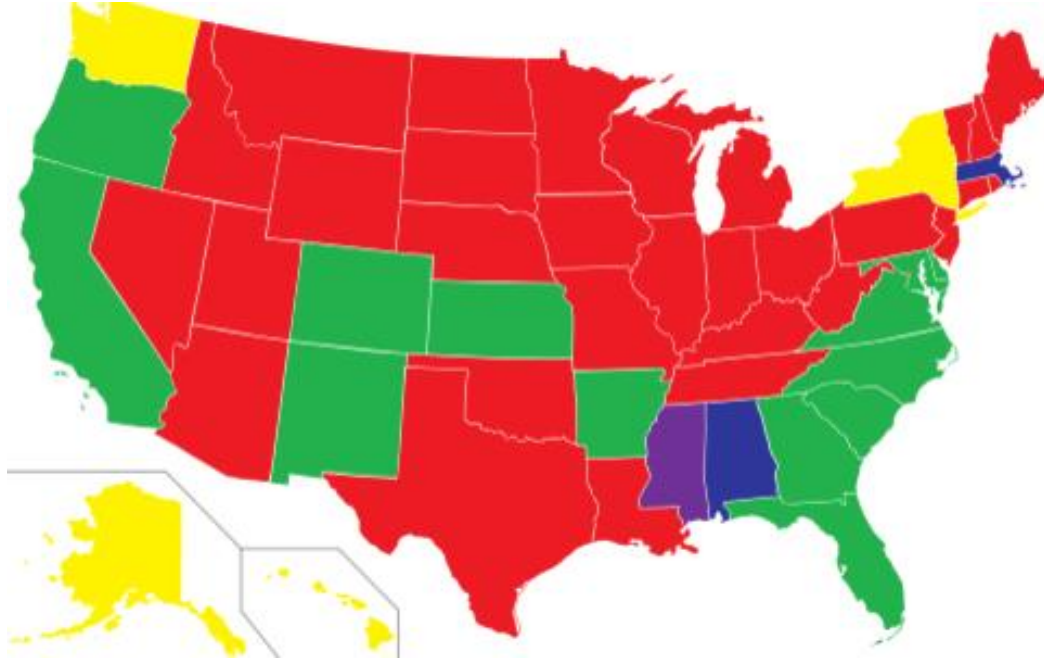


Figure 1 Map of Abortion Laws Prior to Roe v. Wade in 1970 (Camp, 2019)

- Red:** Illegal with no exceptions
- Purple:** Legal only in cases of rape
- Blue:** Legal in cases of danger to the mother's health
- Green:** Legal in cases of danger's to the mother's health, rape or incest, or damage to the developing fetus
- Yellow:** Legal upon request

4.0 Literature Review and Results

Despite the importance of *Roe v. Wade* in past and present United States policy, little research has been conducted specifically on the economic impacts of *Roe v. Wade*. The following section will synthesize and review existing research on this topic.

4.1 Fertility

Literature on how *Roe v. Wade* impacted fertility in the United States is largely consistent, with all articles included in the review finding that fertility in the United States decreased after *Roe v. Wade* was passed. While all existing literature agrees that fertility was reduced, the ways in which the articles describe and analyze the impact that reduced fertility had on American women differ.

Several pieces of literature address the differences in fertility among various demographic and geographic groups after *Roe v. Wade*. In 1970, the fertility rate was 2.48 births per woman in the United States. That rate fell to 1.74 births per woman by 1976 and as of 2018, the fertility rate is 1.73 birth per woman, the lowest in history (Livingston, 2019). Philip Levine and others (1999) compare birth rates between states with legal abortion prior to the ruling of *Roe v. Wade* and states that legalized the procedure only after. They report that before abortion legalization, differences in fertility rates between the two groups of states remained stable. In 1971, five states had legalized abortion. Birth rates in those states reduced by 5% compared to states where abortion remained illegal. One year after *Roe v. Wade*, the opposite was true. Fertility rates in states that had just

legalized abortion decreased more than in states where abortion remained legal (Levine, Staiger, Kane, & Zimmerman, 1999).

Jacob Klerman's (1999) work analyzes how abortion policies impact fertility rates among women of different races, finding that abortion legislation has only a moderate impact on white fertility, but a large effect on fertility of black women. Hamilton and Ventura (2006) look at fertility rate differences between age groups before and after abortion legalization. They report that abortion rates have been highest among women aged 20-24 since 1991, but before then, rates were highest among women aged 18-19 years. Fertility of women over the age of 30 has dramatically risen since 1960, and for women under 25, birth rates have decreased (Hamilton & Ventura, 2006).

Other articles, including one by Melanie Guidi (2008), specifically research how abortion and contraceptive access impacts the fertility of minors. Levine, Staiger, Kane, and Zimmerman (1999) found that *Roe v. Wade* reduced teen fertility by 2%-13%. This research does not address other legal forms of contraception that could also have an impact on fertility rates. Guidi (2008) argues that omitting such variables can lead to bias; therefore, her work explores the effect of minors' access to both legal abortion and contraception on the teenage birth rate, specifically how legislation on who can get contraceptives influenced the impact of abortion on fertility in minors. Minors, who were often not married, were legally unable to get contraceptives in the 1960s. For them, abortion was the only legal option of contraception in some states, which greatly impacted the fertility and abortion rates of women in that age group (Guidi, 2008).

Literature on this topic is extensive and conclusive; however, more research could be done to determine how fertility rates impact women living in the United States. From this review, we

know that fertility has decreased since *Roe v. Wade*, but little is still known about what that actually means for women.

4.2 Poverty

Different approaches are taken to looking at the impact of abortion legalization and access on poverty. Some articles explore how those two factors affect poverty in women and their families. Others look at the differences in unintended pregnancies and births among women across socioeconomic levels.

Reeves and Venator (2015) examine socioeconomic gaps and assess how they impact unintended childbearing. Low-income women are consistently less likely to use contraception and receive abortions, which Reeves and Venator believe to be associated with financial constraints. This creates an even deeper wedge in the socioeconomic gap between them and their wealthier counterparts. When lower-income women do not have abortions, they are likely to sink further into poverty, placing themselves and their children at risk for adverse outcomes associated with poverty. To combat this issue, Reeves and Venator (2015) call for the “equalization of contraception” to reduce the socioeconomic differences that exist between groups.

Articles that examine how abortion access and legalization impacts female and familial poverty conclude that access to legal abortions reduces poverty among women who receive them. Based on the fact that the most common reasons that women give for seeking and obtaining an abortion are financial (Finer, Frohwirth, Dauphinee, Singh, Moore, 2005), Foster, Biggs, Ralph, Gerdts, Roberts, and Glymour (2018) conducted a prospective cohort study of 813 women between 2008 and 2010 who either received or were denied an abortion and after five years, assessed their

socioeconomic outcomes and how their access to abortion impacted those outcomes. Instead of *Roe v. Wade*, this article uses state levels of abortion restriction as their independent variable. Women who were denied abortion showed higher levels of poverty six months later. Specifically, these women were six times more likely to receive Temporary Assistance for Needy Families (TANF), were less likely to be employed full time, and more likely to have lower incomes (Foster, et al., 2018).

Bailey, Malkova, and McLaren (2018) take a similar approach, but focus on how several aspects of family planning access impact children's opportunities. Their research indicates that children born after the introduction of family planning programs in the United States had better economic outcomes than children born before. These children were less likely to live in poverty and less likely to be in families receiving public assistance (Bailey, Malkova, & McLaren, 2018). Specific to abortion legalization, Ananat, Gruber, Levine, and Staiger (2009) found that children born after *Roe v. Wade* were positively impacted later in life; they were less likely to be reliant on public assistance, less likely to be single parents, and more likely to obtain a college degree (Ananat, et al., 2009).

Gruber, Levine, and Staiger (1998) conducted similar research with similar results prior to their collaboration with Ananat, specifically researching the impact of the "marginal child." They examined how the life of the "marginal child," one who was not born due to abortion legalization, would have played out. They found that the "marginal child" would live a more disadvantaged life, with a 50% higher change of living in poverty and a 60% higher change of living in a single parent household (Gruber et al., 1998).

The existing literature on the impact of abortion legalization on poverty rates among women and their families is consistent: legal access to abortion reduces poverty for women and

their children. Having a wide range of impacts addressed strengthens the literature and its arguments. Lacking is literature analyzing specifically how *Roe v. Wade* impacted poverty. The closest literature to this topic uses recent state-level abortion restrictions, not *Roe v. Wade* itself.

4.3 Female Labor Force Participation

The literature consistently shows that female labor force participation is positively impacted by access to abortion and contraception. Where articles differ is in the ways in which they answer the question of whether or not female labor is impacted by such methods.

Martha Bailey, an economics professor at the University of Michigan, has focused her career on researching the effects of contraceptive availability on the employment and labor experiences of women. Her work addresses the impact of access to oral contraceptives on a number of variables related to a woman's labor experience including age at first pregnancy and age of access to oral contraception, as well as how those factors influence the female labor force participation rate (Bailey, 2006). Claudia Goldin and Lawrence F. Katz (2002) studied the association between contraception and women's marriage and education decisions, both of which influence a woman's participation in the work force. These articles provide important implications on how specific types of contraception impact the female labor force participation rate; however, they do not specifically address how abortion influences it.

One publication that does address the impacts of abortion on female employment and labor rates is "Fertility, Female Labor Force Participation, and the Demographic Dividend" written by Bloom, Canning, Fink, and Finlay (2007). They evaluate the impacts that abortion has on female labor by using abortion legislation across several countries as an indicator for fertility, assessing

how abortion legislation in different countries impacts their respective female labor force participation rates (Bloom, Canning, Fink, & Finlay, 2007). While their work does specifically address abortion, it does not assess abortion policy in the United States in its analysis.

Gold's (2018) research for the Guttmacher Institute studies how a mother's access to legal abortion impacts her decision of whether or not to enter the workforce. She finds that women who were unable to get abortions were then unable to afford childcare for their children when they went to work. In those cases, many women chose to leave their jobs and take care of their children instead of working and paying high costs for childcare, causing many to rely on government assistance (Gold, 2018).

4.4 Results

The census captures the number of people in the labor force, or the number of people able to work. Because labor force includes all working age people whether they work or not, specific data needed to be captured: women who work and women who want to work and are actively looking for a job. To do this, women who did not work and were not searching to work were eliminated from the sample. Only those women in the labor force in the years 1970 and 1980 were included, with the proportion of that to the civilian population giving the labor force participation rate.

In order to avoid skewing the data by including people who are not generally in the work force to begin with, only women between the ages of 20 and 65 were included. Therefore, younger women either still in school or not yet in need of a job who are out of the work force and retired

women out of the work force are not included in the sample population and their work status is therefore not used. After these adjustments were made, 3,899,991 women were left to use in the analysis. It is important to recognize, however, that the United States census uses weighting when gathering and analyzing data. The census surveys one person and that person then is used to represent a number of other individuals with similar characteristics, eliminating the need for everyone in the country to be surveyed. For this reason, weighting needed to be accounted for in the analysis of the data between the years of 1970 and 1980 since different weights were placed on women in those years.

Because census data are collected every ten years, data from 1970 are used to represent the time before the 1973 passing of *Roe v. Wade* and data from 1980 to represent the time after. Using these years allows for analysis of the differences between the female labor force participation rate between the two eras. The data included are data on females in the work force, age, level of education, and state of residence. The data were collected by the Integrated Public Use Microdata Series at the University of Minnesota.

As shown in Table 1, a majority of the population sample for this research has a level of education at or above a high school diploma, which is a fairly standard requirement for entering the labor force and securing a job.

Table 1 Data Descriptions on Educational Attainment among Female Population Sample

Educational attainment [general version]	Freq.	Percent	Cum.
N/A or no schooling	23,161	0.59	0.59
Nursery school to grade 4	58,075	1.49	2.08
Grade 5, 6, 7, or 8	373,389	9.57	11.66
Grade 9	172,344	4.42	16.08
Grade 10	231,474	5.94	22.01
Grade 11	217,816	5.59	27.60
Grade 12	1,615,112	41.41	69.01
1 year of college	283,497	7.27	76.28
2 years of college	285,284	7.31	83.59
3 years of college	140,666	3.61	87.20
4 years of college	307,682	7.89	95.09
5+ years of college	191,491	4.91	100.00
Total	3,899,991	100.00	

Table 2 outlines the ages of the women used for this study and reports the mean age and standard deviation, with an average age of slightly less than 40 years old and a standard deviation of 13.4. This standard deviation provides a range of ages that is well within that of typical child-birthing years, which is the age group that this study aims to research. This is appropriate, as abortion legalization is mainly relevant to women within that age range.

Table 2 Data Descriptions of Age among Female Population Sample

Variable	Obs	Mean	Std. Dev.	Min	Max
age	3,899,991	39.5858	13.43864	20	65

As shown in Table 3, a majority of the studied female population were white, which is consistent with the population of the United States. While the exact ratios of white to black

individuals is not exactly equal to the proportions in the United States, because the regression (discussed below) accounts for race, this should not serve as a potential confounding variable.

Table 3 Data Descriptions of Race among Female Population Sample

Race [general version]	Freq.	Percent	Cum.
White	3,364,583	86.27	86.27
Black/Negro	437,385	11.22	97.49
American Indian or Alaska Native	22,220	0.57	98.06
Chinese	14,187	0.36	98.42
Japanese	15,862	0.41	98.83
Other Asian or Pacific Islander	35,183	0.90	99.73
Other race, nec	10,571	0.27	100.00
Total	3,899,991	100.00	

The difference-in-difference method requires a run of a regression in order to determine the impacts of a specific independent variable on the behaviors and trends of another (presumably) dependent variable. In this analysis, the independent variable is the legality of abortion and the dependent variable responding to those laws is the female labor force participation rate. In order to determine the impact of legalizing abortions on female labor force participation rate, the following regression was run.

$$LFPR_{ist} = a + \sum_{j=1}^{50} b_j \times STATE_{js} + \sum_{k=1}^T c_k \times YEAR_{kt} + d \times A_{st} + e_{ist}$$

States are divided between already allowing abortion in 1970 ($A_{st} = 1$ if $t = 1970$) and states not allowing abortion in 1970 ($A_{st} = 0$ if $t=1970$). Here A_{st} equals one if state s allows legal abortion

in year t , with $A_{st} = 1$ if $t > 1970$ because of the Supreme Court's ruling on *Roe v. Wade* that nationally legalized abortion. In this regression equation, $LFPR_{ist}$ is a variable equal to either zero or one for whether woman i in state s in year t participates in the workforce (1) or does not (0). $STATE_{js}$ and $YEAR_{kt}$ are dummy variables. The coefficient that is of interest to this study that will ultimately determine the impact of abortion laws on female labor force participation rate is the coefficient d . If $d > 0$ and is statistically significant (a t-value equal or greater than 2) then access to legal abortion has an impact on female labor force participation rates.

Because other factors contribute to a woman's labor force participation, age, race, and level of education are identified variables that could influence participation. By creating dummy variables for each of these dependent variables, the regression creates artificial similarities between the women. This means that the variables of age, race, and level of education are held constant, generating a useful comparison between seemingly "identical" women between states. The dummy variables create a comparison among women in different states and holds constant their age, race, and level of education, leaving the abortion laws in their state of residence as the only factor contributing to their participation in the labor force, which is what this study aims to research.

Nationally, female labor force participation rate has increased in the past 50 years, while male labor force participation rate has been steadily declining.

As shown in Figure 2, between the 1970s and 1980s, the labor force participation rate of men declined, dropping about two percentage points from 79.7% to 77.4%. This decline is consistent with rates of male labor force participation in previous years, which suggests that there is no outside effect occurring during these years on male labor force participation rates. If there was an outside effect, it would be expected that the change in participation rates would be

inconsistent between decades. The same could be assumed for female labor force participation, which is illustrated in Figure 3 below.

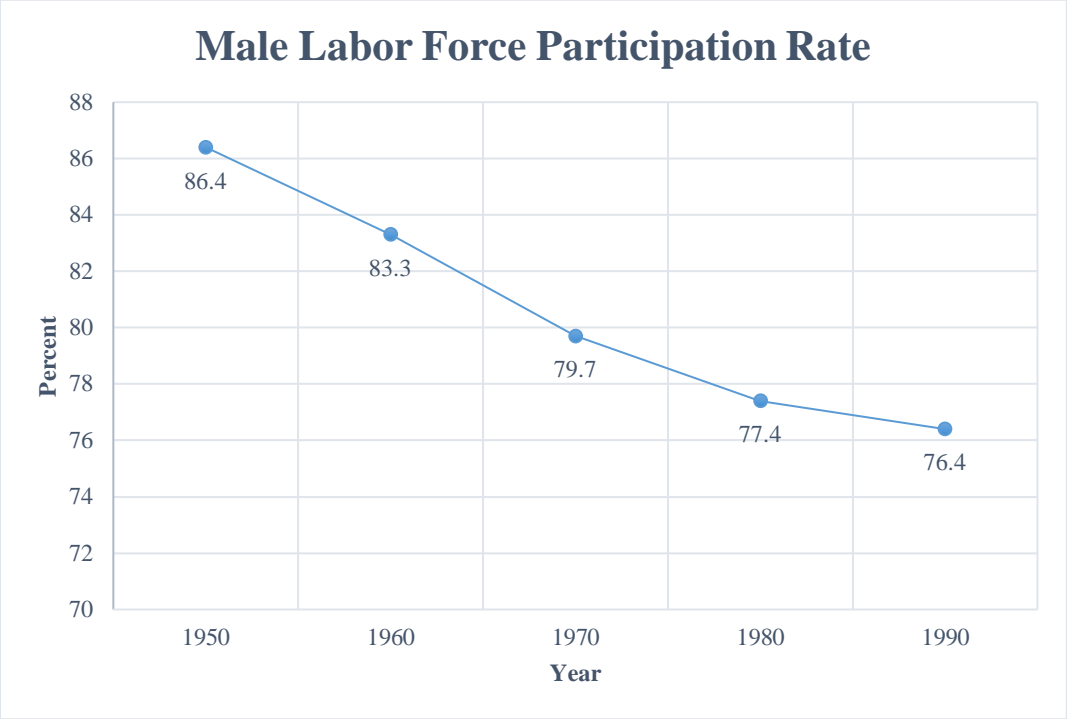


Figure 2 Male Labor Force Participation Rate 1950-1990

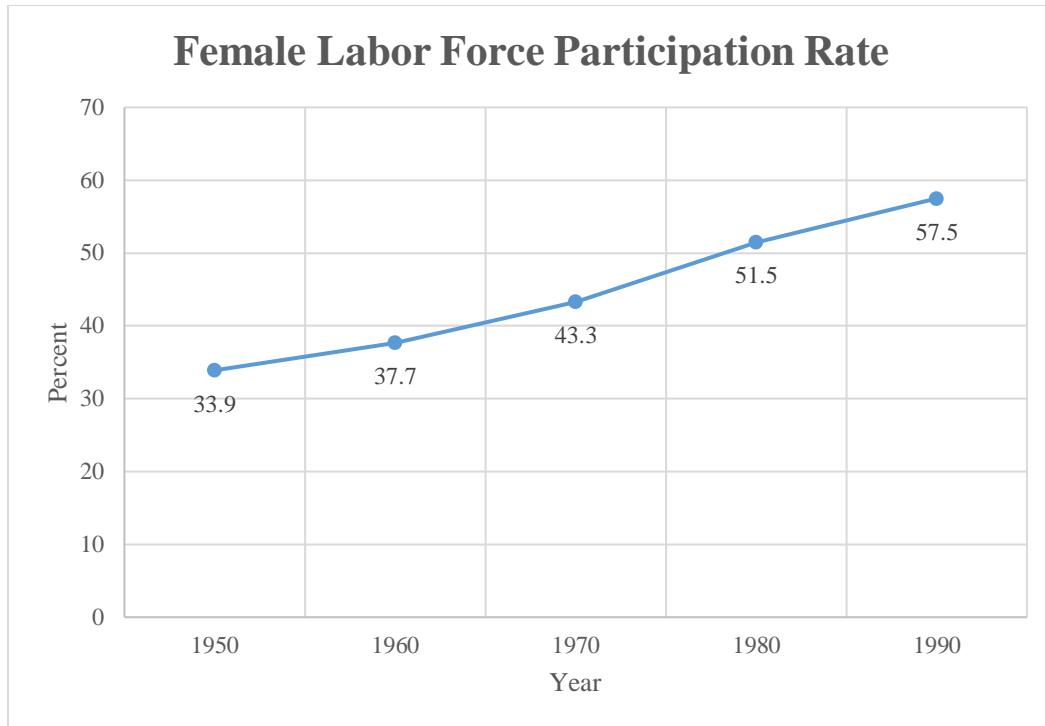


Figure 3 Female Labor Force Participation Rate 1950-1990

As shown, the increase in labor force participation among females between 1950 and 1960 was less than 4% and between 1960 and 1970 the increase was less than 6%. As shown in Figure 3, the female labor force participation rate increased drastically between the years of 1970 and 1980, jumping more than eight percentage points from 43.3% to 51.5%. This level of increase was not observed for male labor force participation and the increase drops down again to 6% between the years of 1980 and 1990 for female labor force participation. Because the level of increase does not stay consistent or grow higher after the change in participation between 1970 and 1980, it could indicate that *Roe v. Wade* had an impact on the female labor force participation rate.

On a surface level, the increase in female labor force participation rates between these years could be attributed to a multitude of factors, so it is necessary to look at specific deviations and

trends within states to fully assess the impact of abortion laws on the female labor force participation rate.

The hypothesis for this analysis portion of the essay is that states that had not already legalized abortion before *Roe v. Wade* experienced a greater increase on female labor force participation than in states that already legalized abortion.

The regression was run to determine the specific impact of abortion legalization on the female labor force participation rate. The independent variable of legalized abortion was treated and used as an intervention, a necessary step to the difference-in-difference model of economic analysis.

Table 4 shows the results of the regression equation, with the coefficient symbolizing the difference in the rate of female labor force participation between states that did and did not allow abortion before its nationwide legalization in 1973.

Table 4 Results of Regression Analysis on Abortion vs. Female Labor Force Participation Rate

	Coefficient	Standard Error	T-Value
Legalized Abortion	0.011	0.0044	2.63

5.0 Discussion

Based on the critical literature review and the analysis, abortion legalization and access granted by the ruling of *Roe v. Wade* have an impact on several economic factors, including fertility, poverty, and women's participation in the labor force in the United States, all of which are intimately connected.

It is extremely important to combat poverty, so important that its eradication was identified as one of the United Nations Millennium Development Goals (MDGs) in 2000. Because poverty is so critical, it is crucial that we recognize *Roe v. Wade*'s contributions to reducing poverty among women living in the United States.

Literature and research on how fertility and poverty are impacted by abortion legalization show that while legal abortion and contraceptive access and use lead to reduced fertility and poverty across the board, certain groups of women see an even larger reduction in fertility, such as minors, women of color, and women in states without legal abortions before 1973. Once *Roe v. Wade* was passed in 1973, fertility rates of minors dropped drastically in following years (Guidi, 2008). When fertility rates drop among minors, fewer become teenage mothers, which reduces their likelihood of living below the poverty level. Only 50% of adolescent mothers complete high school or obtain a GED by the time they are 22 (Blackman & Garcia, 2018) and less than 2% finish college by age 30 (Garcia, 2013). There are large wage differences across education levels, and unemployment rates are higher among those with a high school degree or less (U.S. Department of Labor 2019). Reducing the fertility of minors through abortion legalization and access improves their socioeconomic status and reduces their likelihood of living in poverty.

Reductions in fertility among women of color are greatly impacted by abortion legalization, more so than that of their white counterparts (Kerlman, 1999). Women of color are also more likely to live in poverty than are white women (Kaiser Family Foundation 2019) and are less likely to use contraceptives or receive abortions for a number of reasons, many financial (Reeves and Venator, 2015). Abortion access and legalization can aid in reducing this compounding effect among women of color and can provide means to reduce both their fertility and likelihood of living in poverty.

Existing literature also concludes that abortion legalization had a greater impact on the fertility rates of women living in certain geographic locations, specifically in states where abortion was previously illegal. States that outlawed abortion before 1973 experienced a much larger decrease in fertility rates after *Roe v. Wade* than did states that had already legalized abortion. This shows that where abortion is outlawed, there is a huge unmet need for its services (Levine et al., 1999).

Foster, Biggs, Ralph, Gerdts, Roberts, and Glymour's (2018) research shows that when women were denied an abortion, they were more likely to live in poverty than women who received an abortion. If *Roe v. Wade* were overturned, millions of women would be denied the right to an abortion, causing more women and their families to live in unnecessary poverty.

Women who do not have access to legal abortion or other methods of family planning are also more likely to give birth to children who will live in poverty during and after their childhoods. Gruber, Levine, and Staiger's research (1998) on the "marginal child" shows that children born due to the illegalization of abortion are more likely to live in poverty and in a single-parent household. Abortion legalization not only positively impacts the mother, but also children. When more children are born into poverty, families sink deeper into financial distress and there is a

heavier tax burden for public assistance funding. Upholding *Roe v. Wade* allows women to provide the best lifestyle to their children and reduces the chances that they and their children live below the poverty level.

Also closely connected to poverty is employment, measured by the labor force participation rate. Bailey's work (2006) on how contraceptive access impacts female labor force participation shows that when women have access to family planning methods, they are more likely to enter the workforce due to later first pregnancies. The same can be said for abortion access. If women have access to safe, legal abortion, they are more likely to enter the workforce because they will not have a child at a young age, which Bailey's work (2006) shows as a barrier to entering the workforce.

Goldin and Katz's (2002) research studies the relationship between contraceptive use and women's marriage and education decisions. Attaining higher levels of education prepares a person for the workforce and influences women to participate in the workforce. Women who become unintentionally pregnant at a young age might then become unable to further their education, placing them at a disadvantage when it comes to securing employment. Legal abortion provides women with a method of family planning that can greatly influence their decisions to further their education and enter the workforce.

The work of Bloom, Canning, Fink, and Finlay (2007) concludes that there is a significant negative effect of fertility on female labor force participation rate. Countries with legal abortion have lower rates of fertility, and those countries have higher rates of women participating in the labor force compared to countries where abortion is illegal. If the United States were to outlaw abortion, it is almost certain that female labor force participation would decrease, causing women

to be reliant on those in their families who work and provide an income, having detrimental impacts on gender equality.

Gold's research (2008) addressed how abortion policy impacts tax policy, showing that many women who do not have access to legal abortion leave the workforce and rely on government assistance, funded by taxpayers, to survive. Their departure from the workforce can be avoided if they have the ability to make the decision of whether or not to have a child.

As displayed in Table 4, the intervention of legalizing abortion had a positive effect on the female labor force participation rate. While the regression shows a small effect of only 0.011, or 1.1%, there is a small standard error of 0.0044, and with a t-value of 2.63, the results are statistically significant. Therefore, it can be concluded that there was a greater increase in female labor force participation rate among women who resided in states that did not allow abortion compared to in states that previously allowed abortion before *Roe v. Wade* between the years of 1970 and 1980. This means that abortion legalization was a major factor in increasing the female labor force participation rate in those states, highlighting the importance of legal abortion.

While this number seems small, when comparing it to the number of women in the sample and the percentage change in female labor force participation rate overall, the effect is more impactful than it seems. Because the rate of female labor force participation increased by about eight percentage points between 1970 and 1980, a coefficient valuing about 1.1% means that the abortion legislation accounted for 13% of the total change, which is far from a small impact. The exact calculation for this is below:

$$\% \text{ of total change} = \frac{\% \text{ change with diff-in-diff}}{\text{Total \% change}}$$

$$\% \text{ of total change} = \frac{1.1}{8.2}$$

$$\% \text{ of total change} = \mathbf{0.13 \text{ or } 13\%}$$

Illegal abortions pose a serious threat to the health of the mother, and according to the Guttmacher Institute, illegal abortions accounted for almost 17% of all deaths related to childbirth and pregnancy in the year 1965, eight years before *Roe v. Wade* (Gold, 2018). In addition, these numbers are only from reported instances, so the actual total could be much higher. If these women had access to legal, safe abortions, they could have potentially been part of the female labor force.

6.0 Conclusion

Abortion legalization granted by *Roe v. Wade* has impacted female fertility, poverty, and the female labor force participation rate in the United States. Women who have access to safe and legal abortions are healthier, more likely to further their educations and marry later in life, more likely to enter the labor force, and are less likely to live in poverty. In addition to women, children born to mothers who have the option of legal abortion are less likely to live in single-parent households and less likely to live in poverty. They themselves are also more likely to further their educations and are less likely to become single parents in the future, breaking the deeply entrenched cycle of poverty with which this country struggles greatly.

With the results of the 2016 election, the repeal of *Roe v. Wade* is being discussed and is publicly supported by many Republican lawmakers. Several states have already taken action in attacking the ruling, hoping for a case in the Supreme Court. If the Court's 1973 ruling is repealed, the decision of whether or not to legalize abortion would likely return to the states, consistent with the laws prior to 1973. In this case, women whose states of residence choose to outlaw abortions would be forced to travel to another state in which abortion remains legal in order to receive abortion services, or, if those women are unable or unwilling to pay the travel costs to another state in which abortion remains legal, they may be forced to continue the pregnancy, or worse yet, make use of unsafe and illegal avenues to an abortion as many women did prior to *Roe v. Wade*.

6.1 Limitations

One of the most important limitations of the literature review is that it did not include every article analyzing the impacts of *Roe v. Wade* on fertility, poverty, and female labor force participation, nor did it review every economic indicator impacted by abortion legalization. An additional limitation that greatly impacted this review was the lack of existing research on *Roe v. Wade*'s impact. Most articles discussed how contraceptives have influenced these economic indicators, but did not include abortion. Those that did address abortion did not always use *Roe v. Wade* as their independent variable, but used other abortion restrictions and regulations as their variable of measure.

The analysis conducted for this essay using labor force data also has several limitations. The regression analysis was unable to account for every possible factor that could have influenced the increase of the female labor force participation rate after *Roe v. Wade*. It is recognized that several social factors, including gender roles and equality pushes, could also have impacted this change. That limitation can also be extended to include differences between states in terms of social norms and lifestyle expectations. This analysis treated states as differing only on abortion legislation. It would not be possible to account for and quantify lifestyle differences across states in this type of analysis. Additional limitations stem from the women included in this analysis. It is assumed that all unemployed women who identified themselves as part of the labor force and actively seeking a job might in reality not been actively searching for work. Finally, the women compared for this analysis between the years of 1970 and 1980 are not the same individuals. Although the analysis accounted for variables such as location, age, race, and level of education, it is likely that there are other variables that differ between the women that were not accounted for in the regression.

6.2 Directions for Future Research

Due to the lack of existing research and literature on how *Roe v. Wade* specifically impacted economic indicators in the United States, future research should explore this topic of study. With *Roe v. Wade* under attack, it is more important than ever that more research be conducted on its impacts on women living in the United States. Currently, much of the abortion argument is centered on individual moral debates and religious beliefs, not fact. It is dangerous to threaten legal abortion without fully understanding and analyzing its impact on an economic level based on evidence. Future research should include detailed data analyses on more economic indicators affecting women in the United States. More research will allow lawmakers and their constituents to make fully informed decisions regarding abortion legality and access and will show how important it is to secure and protect legal abortion in the United States.

6.3 Policy Recommendations

With evidence of contraception's and legal abortion's positive impact on several economic indicators, it is recommended that at the very least, lawmakers in the United States leave *Roe v. Wade* alone and treat it as settled law. It provides basic and equal protection for a woman's right to choose across the country, ensuring that all women, regardless of residence, have the right to terminate a pregnancy should they choose to. The next President of the United States should be urged to codify *Roe v. Wade* into federal law, protecting it from the Supreme Court's shifting majority. Additionally, that president should immediately repeal the Hyde Amendment and the

domestic gag rule; both place unnecessary and burdensome restrictions and barriers on abortion access and information.

It is imperative that state-wide attacks on abortion and reproductive freedom come to an end. As this essay shows, *Roe v. Wade* has made considerable impacts on the health and well-being of women across the United States. Unfortunately, legal abortion does not always translate to access to abortion. We cannot go back to a time when abortion was legal in only certain states, and with the recent attacks on abortion, particularly in southern states, that is becoming more of a daunting reality. As a country, we must eliminate all barriers to abortion to ensure that each and every woman in the United States has safe and legal access to abortion. One way we can do this is to encourage more states to pass laws protecting abortion rights and to include such rights in their Constitutions.

To protect *Roe v. Wade* and its impact on women's health, refusing to perform an abortion based on religious beliefs or conscience claims should be strictly prohibited by lawmakers. Such policies interfere with *Roe v. Wade* and a women's constitutional right to an abortion and are dangerously close to overstepping the United States' values on separation of church and state.

6.4 Public Health Significance

Given that abortion is still at the forefront of political debates and remains a topic of contention between the two parties and that attacks on abortion and reproductive rights have amped up recent years, *Roe v. Wade* and its impact on abortion rights remains a significant public health issue. It is clear from the research and analysis included in this essay that *Roe v. Wade* reduced negative health outcomes for women and their children once it was passed in 1973, including

maternal mortality and birth complications. Repealing this law may reverse positive strides that the United States has made in improving healthcare and health outcomes, putting lives of women and their children at an unnecessary risk.

In addition to health outcomes, *Roe v. Wade* has also reduced fertility rates, leading to reduced poverty and increased participation of women in the work force. Repealing *Roe v. Wade* has the potential to increase poverty and reduce female labor force participation rates, negatively impacting our economy and wellbeing of our society.

Assuming we want to continue reducing poverty and fertility rates and increasing labor force participation among women in the United States, we should be doing everything we can to reduce barriers and restrictions to abortion. In doing so, we will ensure a healthier, more productive, and more engaged, and perhaps most importantly, more equal population of women in our society and our economy.

Roe v. Wade did much more than simply allowing for the termination of a pregnancy; it allowed all women across the United States, regardless of state of residence, to decide for themselves what was best for their own bodies and lives. Now more than ever we must come together and fight to save this important and life-changing reproductive right to abortion.

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