



A Statistical Analysis of the Impact of State Level Pro-Life Legislation

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Introduction

Despite the election and the reelection of a President supportive of legalized abortion, the pro-life movement enjoyed considerable success during the 1990s. Some surveys indicate that by the end of the decade more people were willing to support restrictions on abortion.¹ Additionally, the number of abortions declined during the decade. For the 46 states reporting data to the Center for Disease Control in both 1990 and 1999² the number of abortions fell from 1,055,542³ to 861,789⁴ a decline of 18.4%.

What is the reason for this decline in abortions? The economy might be partly responsible. After all, the economy grew at a brisk rate during the mid to late 1990s and studies

indicate that abortion rates decline during periods of strong economic growth.⁵ However, another reason might be the impact of pro-life legislation enacted during this period.

Indeed, state legislators were able to enact a considerable amount of pro-life legislation during the past decade. For instance:

- In 1992,⁶ virtually no states were enforcing informed consent laws.⁷ By 2000, 27 states had informed consent laws in effect.⁸
- In 1992, no states had banned or restricted partial birth abortion. By 2000, 12 states had bans or restrictions in effect.⁹
- In 1992, only 20 states were enforcing parental involvement statutes.¹⁰ By 2000, 32 states were enforcing these laws.¹¹

Two major factors led to this increase in pro-life legislation. First, in 1992 the Supreme Court in *Casey vs. Planned Parenthood of Southeastern Pennsylvania*, abandoned its trimester framework in favor of a doctrine of “undue burden.” In so doing, the Supreme Court found constitutional some of the policies contained in Pennsylvania’s Abortion Control Act. While many in the right to life movement were disappointed that the

Supreme Court did not use this opportunity to overturn *Roe vs. Wade*, this decision did give state legislators more freedom to enact protective legislation.

For instance, prior to the *Casey* decision the only common forms of state level pro-life legislation which consistently withstood constitutional scrutiny were parental involvement laws and restrictions on Medicaid funding of abortions. However, after *Casey* state legislators could enact a variety of other regulations on abortion. For instance, they could pass informed consent laws. These laws, sometimes known as ‘right to know’ laws, require abortion providers to inform women seeking abortions about health risks associated with an abortion, fetal development, and public and private resources for pregnant women and young mothers. Additionally, partial birth abortion bans were found to be constitutional in a number of states before being ruled unconstitutional by the Supreme Court in *Stenberg vs. Carhart* in 2000.

Secondly, pro-life legislators made considerable and lasting gains at the state level during the 1990s. While it is well known that Republicans obtained control of both the House and the Senate in 1994, the gains they

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made in the states have received considerably less attention. Still, Republicans obtained majority control of both chambers of the state legislature in 11 additional states in 1994.¹² Overall, the number of states where Republicans controlled both chambers of the state legislature increased from 6 in 1990 to 18 in 2000.¹³ Since Republicans often tend to be more sympathetic to pro-life legislation than their Democratic counterparts, their gains at the state level during the 1990s have led to the enactment of more protective legislation.

Other Research

What impact has all this legislation had? Some academic studies provide insights. Much of the academic literature that examines the impact of state abortion policy focuses on parental consent legislation and the extent to which states fund abortion through Medicaid. Most of these studies argue that parental consent statutes and restrictions on Medicaid funding reduce the number of abortions that take place within the boundaries of a given state.¹⁴ However, researchers are divided over whether or not these laws result in overall reductions in the number of abortions that occur. That is because it is possible for some people to circumvent these laws by obtaining abortions in other states where the laws are more permissive.

In "Mandatory Parental Involvement in Minor's Abortions: Effects of the Law in Minnesota, Missouri, and Indiana" Charlotte Ellertson pays special attention to the impact of Missouri's parental consent law.¹⁵ She finds that abortions performed on minors decreased in Missouri after the passage of the parental consent law.¹⁶ However, she also found that minors were more likely to travel to

other states to obtain abortions.¹⁷ In the article, Ellertson argues that this increase in travel could be large enough to completely offset the reduction of abortions that took place in Missouri.¹⁸

Conversely, other studies arrive at different conclusions. One study indicates that the number of abortions performed on Mississippi residents, both in state and out of state, declined after its parental consent statute was passed.¹⁹ Similarly, other studies that have examined Minnesota's parental notification law have found little evidence that minors are leaving the state in great numbers to obtain abortions.²⁰

Overall, while many of these studies are insightful, some shortcomings are prevalent within this academic literature. First and foremost, no study examines the impact of partial birth abortion bans or informed consent statutes. Now, some earlier studies examine a timeframe where few, if any, states had these laws in effect; however, even some of the later studies neglect to analyze their impact.²¹

Secondly, state abortion data comes from two sources: The Center for Disease Control (CDC) and the Alan Guttmacher Institute (AGI). Most studies utilize only one of these data sources; unfortunate because each has its advantages and disadvantages. The Alan Guttmacher Institute receives their data from surveys of abortion clinics. Their method of data collection appears more thorough and consistent; however, the Alan Guttmacher Institute does not collect data every year.²² Conversely, the Center for Disease Control does provide annual data, but its data typically comes from state health agencies. Since state health agencies

often change their methods for collecting and disseminating data, their data may be somewhat less reliable.

Finally, many of these studies are very limited in scope. They only examine a small number of states that have enacted these policies.²³ Still others only consider data from a relatively narrow range of years.²⁴

My analysis will attempt to overcome these shortcomings. I will collect data on abortion rates and ratios in every state from 1985 to 1999. I will also examine data from both the Center for Disease Control and the Alan Guttmacher Institute. Furthermore, I will also consider the impact of informed consent laws and partial birth abortion bans. Finally, I will also hold constant economic and demographic factors that might cause fluctuations in the number of abortions that take place. More details about my methodological approach can be found in the next section.

Methodology

The empirical test of the effectiveness of pro-life legislation involves a regression analysis of a dataset that includes abortion data from nearly every state between the years of 1985 to 1999. Regression analysis is well suited for this type of research because it allows us to simultaneously examine the effects of various factors on the central concern of this paper, the number of abortions that take place at the state level.

Separate regressions will be run on four dependent variables which measure the number of abortions that take place within a given state. The first set of dependent variables measure the state abortion ratio as

indicated by the Center for Disease Control and the Alan Guttmacher Institute respectively. The abortion ratio measures the number of abortions that take place for every 1,000 births. The second set of dependent variables measure the state abortion rate as indicated by the Center for Disease Control and the Alan Guttmacher Institute. These variables measure the number of abortions that occur per 1,000 women between the ages of 15 and 44. Combined, these four dependent variables should give us a good indication about the impact of various forms of pro-life legislation.

A variety of economic and demographic factors will be held constant. To capture the impact of the economy, I will include each state's per capita personal income growth in the regression model. I will also include three separate variables measuring the percentage of women of childbearing age²⁵ between the ages of 15 to 19, 20 to 25, and 25 to 29 respectively. I would hypothesize that younger women facing unexpected pregnancies would be more likely to seek abortions than their older counterparts. As a result, holding other factors constant, relatively higher percentages of younger women would likely

lead to increases in both abortion rates and abortion ratios. Finally, a series of variables measuring the racial composition of women between the ages of 15 to 44 in each state will be included in the model as well.

Of more interest in this study is the impact of different types of state policies that deal directly with access to abortion. I include in the regression analysis four separate variables that each indicate the presence or absence of a particular type of policy.

First is the presence of a parental involvement requirement.²⁶ Parental involvement requirements require minors to either notify or receive consent from one or both parents before receiving an abortion.

Second is whether or not a state restricts funding of therapeutic abortions through Medicaid. Most states will fund abortions through Medicaid when the pregnancy is the result of rape. Similarly, most states fund abortions necessary to preserve the life of the mother. However, states differ as to whether they fund abortions deemed therapeutic in nature.

Third is whether or not a state has an informed consent statute. Informed consent statutes were found to be constitutional in the Supreme Court's *Casey vs. Planned Parenthood* decision in 1992. Informed consent statutes differ from state to state. However, they all require women seeking abortions to receive information about the abortion procedure. This can include information about fetal development, information about any health risks involved with obtaining an abortion, or information about the public and private sources of support for single mothers.

The fourth and final policy that will be examined is whether a state has a ban on partial birth abortions. Now, the Supreme Court struck down all partial birth abortion bans in *Stenberg vs. Carhart* in 2000; however, partial birth abortion bans were upheld in 12 states between 1996 and 2000.

I should also add that the regression model utilized is a fixed effects model where separate indicator variables are included for every state and year. The estimated effects of each of the four policies can be found in Table 2.

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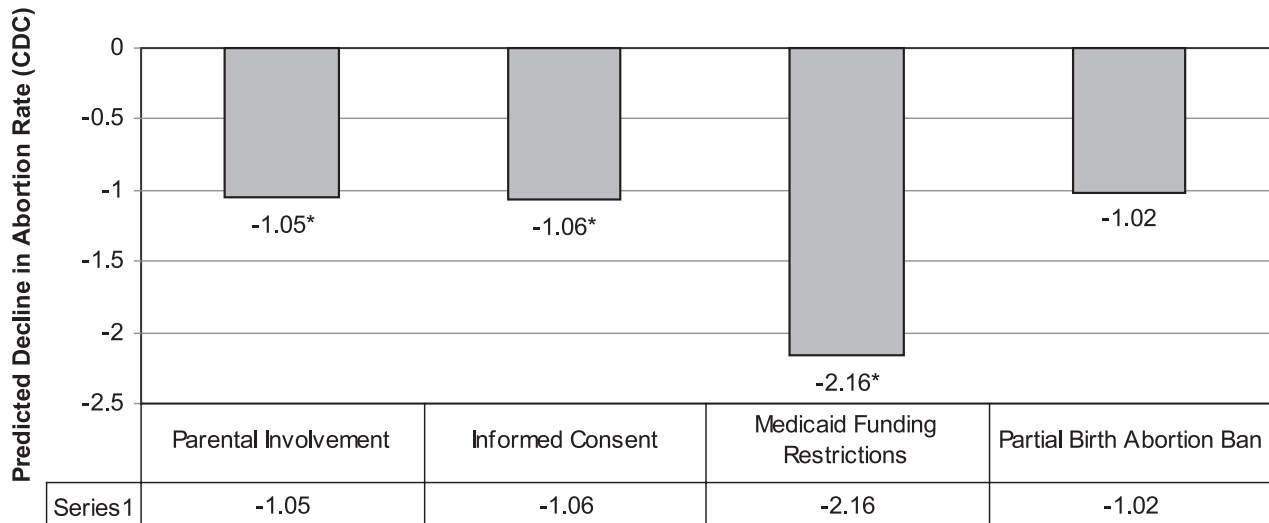
Table 1: Data Sources

Variable	Source
State Abortion Ratio (Number of abortions per 1,000 live births)	1) Center for Disease Control 2) Alan Guttmacher Institute
State Abortion Rate (Number of abortions per 1,000 women between the ages of 15 and 44)	1) Center for Disease Control 2) Alan Guttmacher Institute
Per Capita Personal Income Growth	Bureau of Economic Analysis
Percentage of women of childbearing age who are between the ages of 15 to 19	U.S. Census Bureau
Percentage of women of childbearing age who are between the ages of 20 to 24	U.S. Census Bureau
Percentage of women of childbearing age who are between the ages of 25 to 29	U.S. Census Bureau
Racial demographics by state	U.S. Census Bureau
Partial Birth Abortion Ban	<i>Who Decides?</i> (various years)
Informed Consent Law	<i>Who Decides?</i> (various years)
Parental Consent Law	Merz, Jackson, Kellerman, and <i>Who Decides?</i> (various years)
Medicaid Funding of Abortions	Merz, Jackson, Kellerman, and <i>Who Decides?</i> (various years)

Table 2: The Impact of Abortion Restrictions

Variable	Abortion Ratio	Abortion Rate	Abortion Ratio	Abortion Rate
Data Source ²⁷	CDC	CDC	AGI	AGI
Parental Involvement	-18.22*	-1.05*	-6.92	-0.48
Informed Consent	-8.06*	-1.06*	-18.21*	-1.91*
Medicaid Funding Restrictions	-31.68*	-2.16*	-33.81*	-2.47*
Partial Birth Abortion Ban	-14.74*	-1.02	-52.49*	-1.86

Figure 1: The Impact of State Level Abortion Restrictions



* indicates statistical significance (p < .10)

Discussion

Overall, the results from the regression indicate that pro-life legislation at the state level has been effective at reducing the incidence of abortion. When data from the Center for Disease Control is used, the results indicate that parental involvement laws reduce the abortion ratio by 18.22 abortions per thousand births and the abortion rate by 1.05 abortions per thousand women between the ages of 15 and 44. These findings are statistically significant. Using data from the Alan Guttmacher Institute the regression model also predicts declines in both the abortion rate and the abortion ratio. These results are not significant, but this is partly because when AGI data is used fewer datapoints exist to analyze the impact of pro-life legislation.

Medicaid funding restrictions also appear to be effective at reducing the number of abortions that take place. When data from the CDC is used, the model predicts that Medicaid funding restrictions reduces the abortion rate and the abortion ratio by 31.68 and 2.16 respectively. These results are statistically significant. Furthermore, when AGI data is used, the magnitude and significance of these coefficients are similar. Overall, these findings are consistent with much of the academic literature that examines the impact of parental involvement laws and Medicaid funding restrictions.

Of particular interest in this study is the impact of informed consent laws. This is because they are a recent policy innovation and none of the other academic studies examines their impact. When the CDC data is used, the regression indicates that the passage of an informed consent law reduces the abortion ratio by 8.06 and the abortion rate by 1.06. When AGI

data is used, the results indicate that informed consent laws have an even greater effect, reducing the abortion ratio by 18.21 and the abortion rate by 1.91. All these results are statistically significant. These findings are particularly interesting because over 20 states adopted informed consent laws between 1992 and 1999.²⁸ It seems likely that that these laws played a large role in the decline in abortions during the 1990s.

Finally, all the models predict that partial birth abortion bans reduce abortion rates and ratios. Some of the coefficients do not achieve statistical significance. However, it should be noted that the first partial birth abortion law was not enacted until 1996, and most partial birth abortion bans went into effect in 1997 and 1998.²⁹ As a result, there is relatively little data with which to evaluate their effectiveness.

Resolving Endogeneity Problems Part 1: Comparing Enacted Legislation to Nullified Legislation

The regression results indicate that the passage of state level pro-life legislation is associated with a decline in abortion rates and ratios. However, some observers might question whether these declines are actually being caused by the legislation. The enactment of pro-life legislation is not a random occurrence. Indeed, it is possible that the states passing this type of legislation are states which are becoming religious or conservative. As a result, it might be these shifts in values and not the legislation itself causing the abortion declines.

Resolving these sorts of endogeneity problems is often a difficult issue for social scientists. Unlike researchers in

the hard sciences, social scientists cannot, generally speaking, test their theories through experimentation. Instead, social scientists have to observe social phenomena and make the best inferences they can.

In this research project, these endogeneity problems can be resolved through a nice set of natural experiments. In many states, legislators pass pro-life legislation only to have it subsequently nullified by the judiciary. Now, if the passage of pro-life legislation reflects a shift in values, then it seems reasonable to assume that all the states that passed pro-life legislation experienced a similar shift in values. In some states, however, the legislation took effect, whereas in other states it was nullified due to judicial rulings.

If value shifts are responsible for abortion declines, we would expect similar abortion declines in states where the legislation was upheld and in states where the legislation was nullified. However, if the legislation is what is having the effect, then states whose legislation was upheld would have significantly larger abortion declines than states where the laws were struck down.

In recent years, judges have blocked or delayed the enactment of parental consent laws (Table 3) on at least six occasions; on at least two occasions judicial rulings prevented informed consent laws from going into effect (Table 4). I will run a series of regressions comparing abortion rates and ratios in states where legislation was nullified to states where it actually went into effect. The results are as follows:

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Table 3: Recent Judicial Nullifications Of Parental Involvement Laws³⁰

State	Dates
Georgia:	July 1987 to September 1991
Minnesota:	November 1986 to October 1990
Mississippi:	July 1986 to July 1993
South Dakota:	July 1993 to July 1997
Tennessee:	October 1989 to February 1992
Tennessee:	July 1996 to July 1999

Table 4: Recent Judicial Nullifications Of Informed Consent Laws³¹

State	Dates
Indiana:	1995-2003
Michigan:	1995-1999

Table 5: Examining The Impact of Informed Consent Laws

Status of law	Enacted	Nullified	Difference
Abortion Ratio (CDC)	-7.37	8.18	-15.55*
Abortion Rate (CDC)	-1.03	0.49	-1.52*

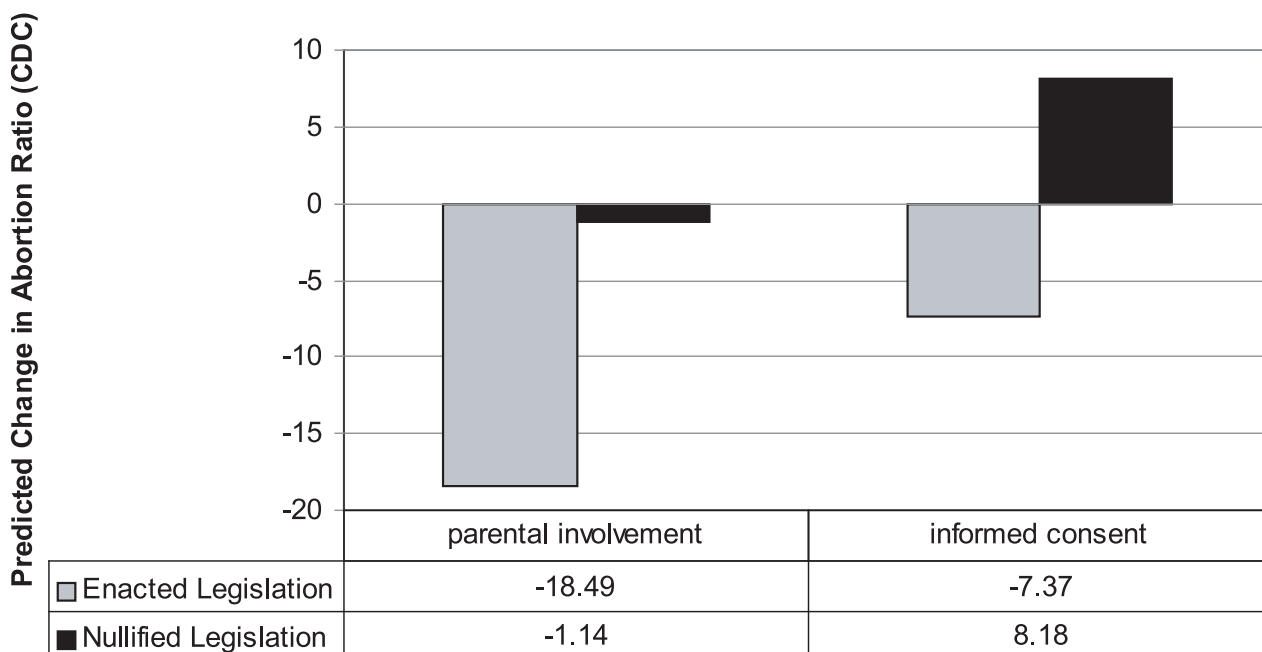
Note: When abortion data from the Alan Guttmacher Institute (AGI) was used, the results were broadly similar. However, since AGI does not release data every year, there were not enough datapoints to make meaningful comparisons.

Table 6: Examining The Impact of Parental Involvement Laws

Status of law	Enacted	Nullified	Difference
Abortion Ratio (CDC)	-18.49	-1.14	-17.35*
Abortion Rate (CDC)	-1.03	0.08	-1.11*

Note: When abortion data from the Alan Guttmacher Institute (AGI) was used, the results were broadly similar. However, since AGI does not release data every year, there were not enough datapoints to make meaningful comparisons.

Figure 2: Comparing Enacted Versus Nullified Legislation



* indicates statistical significance (p < .10)

Tables 5 and 6 indicate that parental consent and informed consent laws being enforced have a considerably larger impact than laws that have been nullified. Enforced informed consent laws result in statistically significant declines in both abortion rates and ratios. Conversely, informed consent laws that have been nullified are actually associated with increases in the incidence of abortion. Similarly, parental involvement laws that are enforced result in significant declines in the abortion rate and abortion ratio. Meanwhile, those laws that have been nullified only have a marginal impact. Once again, these differences are statistically significant. Overall, these findings provide very solid evidence that legislation is responsible for the decline in the incidence of abortion and not value shifts that may be correlated with the passage of pro-life legislation.

**Resolving Endogeneity Problems
Part 2: Comparing The Minor
Abortion Rate to the Overall
Abortion Rate**

A second solution to the endogeneity problems is to compare the impact of different types of legislation on both the minor abortion rate and the overall abortion rate. Suppose legislation is responsible for declines in the incidence of abortion. Then it seems likely that some types of legislation would have a larger impact on the minor abortion rate than on the overall abortion rate and vice-versa.

For instance, since parental involvement laws only apply to minors, they would likely have a larger impact on the incidence of abortion among minors than the overall abortion rate. Furthermore, informed consent laws would likely have a larger impact on the overall

abortion rate than on the abortion rate for minors. Since many minors seek abortion because they wish to conceal their pregnancy or their sexual activity from their parents, it is unlikely that presenting them with more information would change their decisions.

However, suppose abortion declines are not caused by legislation, but are instead caused by changes in values which correlate with the passage of pro-life legislation. Then parental involvement and informed consent laws would correlate with similar declines in the overall abortion rate and the abortion rate for minors. I will run a series of regressions comparing the effect of pro-life legislation on the overall abortion rate and the abortion rate for minors. Results are as follows:

Table 7: Comparing the Impact of Legislation on the Total Abortion Rate to the Minor Abortion Rate

Variable Domain	Minor Abortion Rate Females (13-17)	Overall Abortion Rate Females (15-44)
Data Source ³²	CDC	CDC
Parental Involvement	-1.67*	-1.05*
Informed Consent	-0.53	-1.06*
Medicaid Funding Restrictions	-2.34*	-2.16*
Partial Birth Abortion Ban	-0.33	-1.02

* indicates statistical significance (p < .10)

Discussion

The results here support the fact that legislation and not shifts in values correlated with legislation are responsible for the abortion declines. The regression results indicate parental involvement laws have a negative and statistically significant impact on both the minor abortion rate and the overall abortion rate. However, their predicted impact on the minor abortion rate is considerably larger than their predicted impact on the overall abortion rate. This provides evidence that legislation is impacting the decisions minors make, and not broader shifts in values which would affect both minors and adults.

Similarly, the regression findings indicate that informed consent laws have a negative and statistically significant effect on the overall abortion rate. However, informed consent laws have a smaller impact on the minor abortion rate which fails to reach conventional standards of statistical significance. This is consistent with expectations since minors often seek abortions because they do not want to reveal their pregnancy or sexual activity to their parents. Laws that give them information about the development of their unborn child and private and public sources of support may have little impact on their decisions. However, since adults often seek abortions for other reasons such as financial hardship these types of laws might have a larger impact. Furthermore, this finding provides evidence that legislation is having an impact and not shifts in values which would likely have similar impact on both teens and adults.

Partial birth abortions appear to have a larger impact on the overall abortion rate than on the minor abortion rate. This is consistent

with our expectations since it seems likely that most minors would seek abortions relatively early in their pregnancy. However, we cannot be confident of this finding since neither coefficient reaches conventional levels of statistical significance. Since most states did not enact partial birth abortion until the late 1990s, we have little data to analyze their effects. Furthermore, the coefficients for Medicaid funding restrictions are large, negative, and statistically significant in both regressions. This is unsurprising since children of Medicaid recipients are typically eligible for publicly funded abortions.


Overall, these regressions provide solid evidence that pro-life legislation has an impact on the childbearing decisions of women. Furthermore, it appears that legislation is responsible for these declines and not changes in values correlated with the passage of pro-life legislation. If shifts in values were responsible, then parental involvement laws and informed consent laws would have a similar impact on the minor abortion rate and the overall abortion rate. The fact that informed consent laws have a larger impact on the overall abortion rate and parental involvement laws have a larger impact on the minor abortion rate demonstrates the impact of pro-life legislation.

Conclusion

The number of abortions consistently increased throughout the 1970s and the 1980s.³³ That trend reversed itself during the 1990s as the number of legal abortions declined by 18.4% between 1990 and 1999.³⁴ A number of reasons are likely responsible for this decline. One factor that cannot be overlooked is the impact of pro-life legislation.

Indeed, the Supreme Court's *Casey* decision and the electoral success of pro-life candidates at the state level resulted in a dramatic increase in the number of protective laws. By the end of the decade, more states had adopted parental involvement requirements, informed consent requirements, and partial birth abortion bans.³⁵ A comprehensive series of regressions indicate that each of these laws reduced the number of abortions.

Furthermore, a series of natural experiments provides additional evidence about the impact of pro-life legislation. The regression results indicate that enforced pro-life laws were dramatically more effective than nullified laws. This indicates that pro-life laws, and not shifts in values which may be correlated with the passage of such legislation, are responsible for these declines in abortion. Also the fact that parental involvement laws had a larger impact on minor abortion rate and informed consent laws had a larger impact on the overall abortion rate provides further evidence that legislation was responsible for the reduction in the incidence of abortion.

Overall, this research provides evidence that the increase in abortion restrictions played a large role in the decline in the abortion rate during the 1990s. One question that remains unanswered, however, is the extent to which women were able to circumvent these laws by obtaining abortions in states with fewer restrictions. This is something that I will examine in future research. 

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