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ANALYZING THE EFFECT OF
STATE LEGISLATION ON THE
INCIDENCE OF ABORTION AMONG MINORS

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The reduction in the incidence of abortion during the 1990s became a topic of much discussion during the 2004 presidential election. Between 1990 and 1999, the number of reported legal abortions declined by 18.4 percent.¹ Some commentators noted that this decline took place during the Administration of President Bill Clinton, who supported abortion rights and argued that “pro-life”² voters receive little tangible benefit from electing Presidents who oppose abortion.³ Others argued that these reductions were made possible partly by legislation passed by pro-life legislators and upheld by judges appointed by pro-life Presidents.⁴

Despite attention to the reduced overall abortion rate, the more dramatic decrease in the incidence of abortion among minors has received relatively little discussion. In 1985, 13.5 abortions were performed

on minors for every 1,000 girls between the ages of 13 and 17. By 1999, the abortion rate for minors had fallen by over 50 percent to 6.5 per 1,000 teenage girls ages 13 to 17.⁵

Several factors may explain this decline in the incidence of abortion among minors. First, a stronger economy has been shown to reduce the incidence of abortion among adults⁶ and may have had a similar impact on minors. Second, several studies have found that during the 1990s, teenagers became more likely to delay sexual activity and to abstain from sex altogether.⁷ Third, pro-life legislation enacted during the 1990s, particularly parental involvement laws intended to influence minors, were effective in reducing abortion.

This analysis explores the third explanation. The regression results indicate that certain types of pro-

1. Calculation by the author. The 18.4 percent reduction is based on data from 46 reporting states for the years between 1990 and 1999. California, Alaska, New Hampshire, and Oklahoma did not report their abortion data from 1999; thus, data from those four states were not included in this calculation. The 46 states reported 1,055,542 legal abortions in 1990 and 861,789 in 1999. Laurie D. Elam-Evans, Ph.D., Lilo T. Strauss, Joy Herndon, Wilda Y. Parker, Sara Whitehead, and Cynthia J. Berg, M.D., “Abortion Surveillance—United States, 1990” and “Abortion Surveillance—United States, 1999,” Centers for Disease Control and Prevention *Morbidity and Mortality Weekly Report*, November 29, 2002, at www.cdc.gov/MMWR/preview/mmwrhtml/00031585.htm and www.cdc.gov/mmwr/preview/mmwrhtml/ss5109a1.htm (January 10, 2007).
2. Both legislation intended to reduce the number of abortions and those who support such legislation are often called “pro-life.” This widely accepted term is used throughout this study.
3. Glen Harold Stassen, “Pro-Life? Look at the Fruits,” *The Courier Journal*, October 11, 2004, and Mark W. Roche, op-ed, “Voting Our Conscience, Not Our Religion,” *The New York Times*, October 11, 2004.
4. Michael J. New, “Living with the GOP,” *National Review*, October 28, 2004, at www.nationalreview.com/comment/new200410280846.asp (January 22, 2007).
5. This figure was calculated for the 33 states reporting data in both 1985 and 1999 on the number of abortions performed on minors.
6. Rebecca Blank, Christine George, and Rebecca London, “State Abortion Rates: The Impact of Policies Providers, Politics, Demographics, and Economic Environment,” *Journal of Health Economics*, Vol. 15, Issue 5 (October 1996), pp. 513–553.

life legislation are correlated with reductions in the incidence of abortion among minors:

- Parental involvement laws reduced the minor abortion rate by an average of 1.67 abortions per 1,000 females between the ages of 13 and 17.
- Medicaid funding restrictions reduced the minor abortion rate by an average of 2.34 abortions per 1,000 females between the ages of 13 and 17.
- The results of two natural experiments indicate that pro-life legislation, not changing values, is responsible for the declines in abortion.

PRO-LIFE LEGISLATION

The 1990s witnessed a substantial increase in the amount of pro-life legislation passed at the state level. In 1992, only 20 states enforced parental involvement statutes.⁸ By 2000, 32 states enforced such laws.⁹ Since parental involvement laws require minors to notify or to receive permission from a parent before having an abortion, these laws could have an especially large impact on the childbearing decisions of minors.

Other types of pro-life legislation gained support during the 1990s as well. In 1992, virtually no states had informed consent laws.¹⁰ By 2000, consent laws were in effect in 27 states.¹¹ Similarly, in 1992, no states had banned or restricted partial birth abortion. By 2000, 12 states had passed bans or restrictions on partial birth abortion.¹²

What prompted this substantial increase in state pro-life legislation? There are two probable explanations.

First, pro-life legislation received increased legal support during the 1990s. Although parental involvement laws predated *Roe v. Wade*,¹³ they were struck down in many cases by state and federal

courts in the subsequent decades. In the 1990s, this trend halted as conservative jurists appointed by President Ronald Reagan and President George H. W. Bush gave these laws a better chance to withstand judicial scrutiny. In addition, in *Planned Parenthood of Southeastern Pennsylvania v. Casey*,¹⁴ the Supreme Court abandoned its trimester framework in favor of a doctrine of “undue burden,” which gave parental involvement laws and other types of pro-life legislation broader constitutional protection.

Second, pro-life legislators made considerable and lasting gains at the state level during the 1990s. In 1994, Republicans obtained majority control of both chambers of 11 additional state legislatures. The number of states where Republicans controlled both chambers of the state legislature increased from six in 1990 to 18 in 2000.¹⁵ As Republicans are generally more supportive of pro-life legislation than are their Democratic counterparts, their gains in state legislatures during the 1990s led to the enactment of more pro-life legislation.

OTHER RESEARCH

Research provides a few insights into the impact that increased pro-life legislation has had on the incidence of abortion among minors. Much of the academic literature that examines the incidence of abortion among minors focuses on parental involvement legislation. The findings suggest that parental involvement statutes reduce the number of abortions performed on minors within the borders of a given state.¹⁶ However, researchers are divided over whether these laws reduce the overall number of abortions, in part because minors can circumvent abortion laws in their own states by obtaining abortions in neighboring states that have more permissive laws.

7. Centers for Disease Control and Prevention, “Trends in Sexual Risk Behaviors Among High School Students—United States, 1991–2001,” Centers for Disease Control and Prevention *Morbidity and Mortality Weekly Report*, September 27, 2002, pp. 856–859, at www.cdc.gov/MMWR/preview/mmwrhtml/mm5138a2.htm (January 22, 2007).

8. NARAL Foundation, *Who Decides? 1992*, p. 125.

9. NARAL Foundation, *Who Decides? 2000*, p. 125.

10. Prior to 1992, courts struck down most informed consent laws, but a few fairly weak laws remained in effect. NARAL Foundation, *Who Decides? 1992*, p. 9.

11. NARAL Foundation, *Who Decides? 2000*, p. 125.

12. *Ibid.*

13. 410 U.S. 113 (1973).

14. 505 U.S. 833 (1992).

15. U.S. Census Bureau, *Statistical Abstract of the United States: 2001* (Washington, D.C.: U.S. Government Printing Office, 2000), p. 249.

In analyzing the impact of Missouri's parental consent law, Charlotte Ellertson found that the minor abortion rate decreased in Missouri after passage of the law, but she also found that minors were more likely to travel to other states to obtain abortions.¹⁷ Ellertson then posited that the increase in out-of-state abortions could be large enough to completely offset Missouri's reduction in the level of in-state abortions.¹⁸

In contrast, Virginia Cartoof and Lorraine Klerman found that the number of abortions performed on Massachusetts minors, both in state and out of state, fell by 15 percent after passage of Massachusetts' parental consent statute.¹⁹ Similarly, several studies analyzing Minnesota's parental notification law have found little evidence that minors are leaving the state in significant numbers to obtain abortions in neighboring states.²⁰

Although many of these studies are insightful, several shortcomings are prevalent within this academic literature.

First, many studies are limited in scope, examining only a small number of states that have enacted these policies²¹ or considering data from only a relatively narrow range of years.²²

Second, many studies focus on parental involvement laws, which are intended to influence young people. Yet the literature has largely ignored the

impact of other types of pro-life legislation—public funding restrictions, informed consent statutes, and partial birth abortion bans—on abortion rates, a subject that likewise merits rigorous examination.

Third, many studies fail to correct for endogeneity problems. The enactment of pro-life legislation does not occur randomly. Unobserved influences, such as changes in prevailing social values and mores, may also be at work. Indeed, the states that are enacting pro-life laws could be the states that are becoming more religious or more conservative. Changing values and mores, not the legislation per se, may be responsible for the declines in the incidence of abortion. However, the academic literature to date does not seriously address these problems.

In the following analysis, I attempt to address these shortcomings. I collect data on abortion rates among minors in every state where data are available from 1985 to 1999. While I examine the impact of parental involvement laws, I also consider the impact of other pro-life policies, including public funding restrictions, informed consent laws, and partial birth abortion bans. Finally, I resolve the endogeneity issue by conducting two natural experiments.

METHODOLOGY

To test for the impact of pro-life legislation on the incidence of abortion among minors, multiregression analysis is performed on a dataset that includes

16. Deborah Haas-Wilson, "The Impact of State Abortion Restrictions on Minors' Demand for Abortions," *The Journal of Human Resources*, Vol. 31, No. 1 (Winter 1996), pp. 140–158; Deborah Haas-Wilson, "The Economic Impact of State Policy Restrictions on Abortion: Parental Consent and Notification Laws and Medicaid Funding Restrictions," *Journal of Policy Analysis and Management*, Vol. 12, No. 3 (Summer 1993), pp. 498–511; Patricia Donovan, "Judging Teenagers: How Minors Fare When They Seek Court Authorized Abortions," *Family Planning Perspectives*, Vol. 15, No. 6 (November–December 1983), pp. 259–267; Rebecca M. Blank, Christine C. George, and Rebecca A. London, "State Abortion Rates: The Impact of Policies, Providers, Politics, Demographics, and Economic Environment," National Bureau of Economic Research *Working Paper* No. 4853, September 1994; and Robert Ohsfeldt and Stephan Gohman, "Do Parental Involvement Laws Reduce Adolescent Abortion Rates?" *Contemporary Economic Policy*, Vol. 12, Issue 2 (April 1994), pp. 65–76.
17. Charlotte Ellertson, "Mandatory Parental Involvement in Minors' Abortions: Effects of the Laws in Minnesota, Missouri, and Indiana," *American Journal of Public Health*, Vol. 87, No. 8 (August 1997), pp. 1367–1374.
18. *Ibid.*, pp. 1371–1372.
19. Virginia Cartoof and Lorraine Klerman, "Parental Consent for Abortion: Impact of the Massachusetts Law," *American Journal of Public Health*, Vol. 76, No. 4 (1986), pp. 397–400.
20. Donovan, "Judging Teenagers"; Robert Blum, Michael Resnick, and Trisha Stark, "The Impact of a Parental Notification Law on Adolescent Abortion Decision Making," *American Journal of Public Health*, Vol. 77, No. 5 (May 1987), pp. 619–620; and James Rogers, Robert Boruch, George Storms, and Dorothy DeMoya, "Impact of the Minnesota Parental Notification Law on Abortion and Birth," *American Journal of Public Health*, Vol. 81, No. 3 (1991), pp. 294–298.
21. Cartoof and Klerman, "Parental Consent for Abortion"; Donovan, "Judging Teenagers"; Blum *et al.*, "The Impact of a Parental Notification Law on Adolescent Abortion Decision Making"; and Rogers *et al.*, "Impact of the Minnesota Parental Notification Law on Abortion and Birth."
22. Haas-Wilson, "The Economic Impact of State Policy Restrictions on Abortion."

abortion data from nearly every state between 1985 and 1999.²³ Regression analysis is well suited to this type of empirical research because it allows us to examine a number of factors that simultaneously affect state-level abortion rates.

The dependent variable is the abortion rate among minors (minor abortion rate), a good indicator of pro-life legislation's impact among minors. Specifically, this variable measures the number of abortions that are performed on females under the age of 17 per 1,000 females between the ages of 13 and 17. Because this statistic is not published, I calculated it using aggregate gender and age state population data from the U.S. Census Bureau and annual state data on the number of abortions performed on 17-year-olds, 16-year-olds, 15-year-olds, and minors under the age of 15 from the Centers for Disease Control and Prevention (CDC).

To estimate the predicted effect of pro-life legislation, a number of economic and demographic factors are held constant in the analysis. To capture the economy's impact, I include each state's per capita personal income growth in the regression model. A series of variables measuring the racial composition of females between age 13 and age 17 in each state is also included in the model.

Four binary covariates indicate the individual presence or absence of four key state-level pro-life policies:

- A parental involvement requirement,
- Medicaid funding restrictions,
- An informed consent law, and
- A partial birth abortion ban.

Parental involvement rules require minors to notify or to receive consent from one or both parents before receiving an abortion.²⁴ Medicaid funding restrictions are state restrictions on the use of Medicaid funding for abortions deemed to be therapeutic

Table 1		CDA 07-01
Data Sources		
Variable	Sources	
Minor Abortion Rate*	1. CDC 2. U.S. Census Bureau	
Per Capita Personal Income Growth	Bureau of Economic Analysis	
Racial Demographics by State	U.S. Census Bureau	
Partial Birth Abortion Ban	<i>Who Decides?</i> (1991–2000)	
Informed Consent Law	<i>Who Decides?</i> (1991–2000)	
Parental Consent Law	1. Merz, Jackson, Klerman 2. <i>Who Decides?</i> (1991–2000)	
Medicaid Funding of Abortions	1. Merz, Jackson, Klerman 2. <i>Who Decides?</i> (1991–2000)	

* Number of abortions performed on minors per 1,000 females between the ages of 13 and 17. The Centers for Disease Control and Prevention (CDC) reports the number of abortions performed on women under the age of 18, but does not report an actual abortion rate for minors. The author calculated this statistic by dividing the number of abortions performed on women under the age of 18 by the number of females between the ages of 13 to 17 and multiplying by 1,000.

in nature. Most states allow use of Medicaid funds for abortions when the pregnancy is the result of rape or termination is necessary to preserve the life of the mother, but state funding regulations differ in regard to abortions defined as therapeutic. Informed consent statutes, which received constitutional protection in the Supreme Court's 1992 *Casey* decision, require women seeking abortions to receive additional information about the abortion procedure, which may include information on fetal development, health risks involved with obtaining an abortion, or public and private sources of support for single mothers. The specifics of informed consent laws vary from state to state. Partial birth bans were upheld in 12 states between 1996 and 2000, although the Supreme Court struck down all partial birth abortion bans in *Stenberg v. Carhart* in 2000.²⁵

Finally, fixed effects regressions, which include separate indicator variables for each state and year present in the dataset, are utilized to hold constant geographical and time effects. The complete regression results are presented in Table A1 in Appendix A, and the estimated effects of the four state pro-life policies are presented in Table 2.

23. For a list of states with omitted data, see Appendix B.

24. Both parental consent and parental notification statutes are considered parental involvement requirements.

25. NARAL Foundation, *Who Decides? 1996 and Who Decides? 2000*, and 530 U.S. 914 (2000).

Table 2 CDA 07-01

Impact of Pro-Life Legislation on the Incidence of Abortion Among Minors

Pro-Life Legislation	Change in Minor Abortion Rate
Parental Involvement	-1.67***
Informed Consent	-0.53*
Medicaid Funding Restrictions	-2.34***
Partial Birth Abortion Ban	-0.33

* Statistical significance at the 0.10 level.
*** Statistical significance at the 0.01 level.

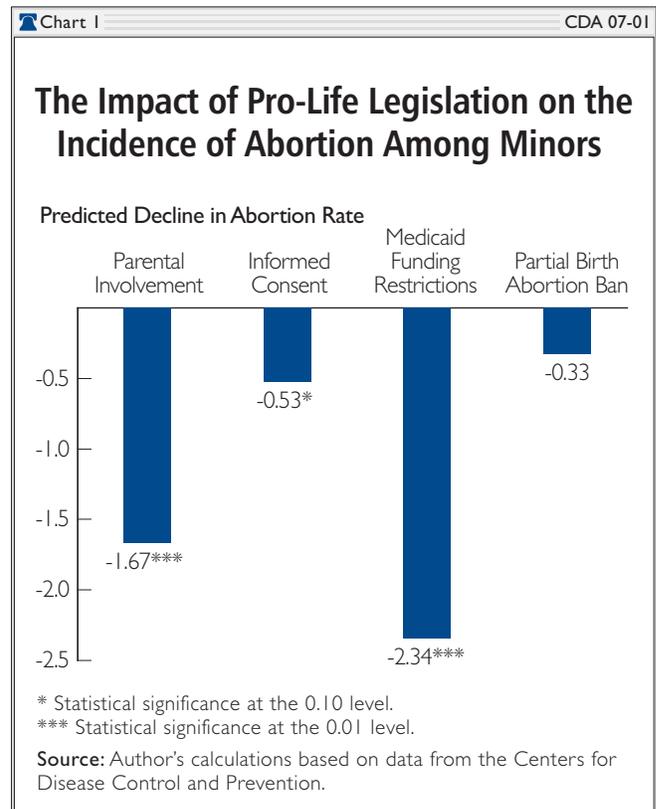
Note: For the full regression results, see Table A1 in Appendix A.
Source: Author's calculations based on data from the Centers for Disease Control and Prevention.

DISCUSSION

Table 2 and Chart 1 present the regression results on the four pro-life legislation variables. Overall, the results indicate that certain types of pro-life legislation have been effective in reducing the incidence of abortion among minors. Parental involvement laws appear to have reduced the minor abortion rate by an average of 1.67 abortions per 1,000 females between the ages of 13 and 17. The coefficient estimate is statistically significant. Since the average teenage abortion rate for the years studied is about 10.18 abortions per 1,000 teenage females, parental involvement laws are predicted to reduce the minor abortion rate by an average of 16 percent.

Surprisingly, another type of pro-life legislation resulted in an even larger reduction in the minor abortion rate. Medicaid funding restrictions reduced the minor abortion rate by an average of 2.34 abortions per 1,000 females between the ages of 13 and 17. The effect of Medicaid funding restrictions also reached statistical significance. While at first glance the larger effect of public funding restrictions may seem surprising, it is reasonable to believe that public funding could affect the decisions of minors because minors in many states are eligible for publicly funded abortions if their parents are on Medicaid. In the absence of public funding, many abortion clinics may shut down or move out of state, which may reduce the abortion rate among minors.

The regression results indicate that informed consent laws and partial birth abortion bans have considerably less impact than the other types of pro-life legislation. These results are expected. In



most cases, minors seek abortions because they do not want to reveal their pregnancy or sexual activity to their parents. It is likely, therefore, that presenting a minor with alternatives to abortion would have little influence on her decision. Similarly, since many minors seek abortions relatively early in their pregnancies, a technique other than partial birth abortion would be used in most cases involving minors.

POTENTIAL ENDOGENEITY PROBLEMS

The results indicate that the passage of certain state pro-life legislation is associated with declines in abortion rates. However, the question remains whether or not the legislation in fact caused these declines. The enactment of pro-life legislation is not a random occurrence. Indeed, states that are passing this type of legislation could be states where values are becoming more religious or conservative. As a result, these shifts in values, not the legislation itself, may be causing the declines in the incidence of abortion.

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, they must observe social phenomena and make the best inferences that they can. Fortunately for this research project, these endogene-

ity problems can be resolved through two natural experiments.²⁶

Experiment #1: Comparing the Minor Abortion Rate to the Total Abortion Rate. The first solution to the endogeneity problems compares the individual effects of the four pro-life policies on the minor abortion rate to their effects on the overall abortion rate. If legislation in general is effective in reducing abortion rates (i.e., changing individuals' decisions about abortion), then one may assume that different types of legislation would lead to different results, depending on the law's intended audience.

For instance, laws intended to influence minors, such as parental involvement requirements, would likely have a larger impact on the incidence of abortion among minors than they would have on the overall abortion rate. Conversely, informed consent laws would likely have a larger impact on the overall abortion rate than they would have on the minor abortion rate because minors and adults may differ in their circumstances for seeking an abortion; thus, minors may be less affected by the availability of alternatives than adults may be.

On the other hand, if abortion declines are not caused by legislation but are instead caused by changes in values that correlate with the passage of pro-life legislation, then parental involvement and informed consent laws would likely correlate with declines of similar magnitude in the overall abortion rate and the minor abortion rate because prevailing influences are affecting minors and adults alike. Table 3 presents the results from two regressions that compare the effects of pro-life policies on the overall abortion rate to their effects on the minor abortion rate.

The results in Table 3 and Chart 2 suggest that legislation, not changing values, is responsible for the declines in abortion. Parental involvement laws appear to have a negative and statistically significant impact on both the minor abortion rate and the overall abortion rate. As expected, their predicted impact

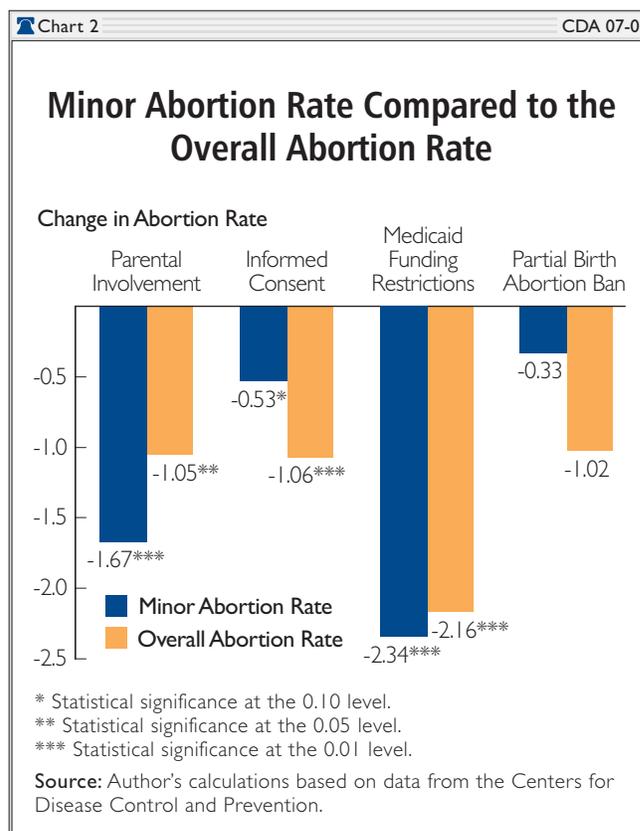
Table 3 CDA 07-01

Comparing Changes in Abortion Rates Associated with Pro-Life Legislation

Pro-Life Legislation	Change in Minor Abortion Rate (Females, Ages 13–17)	Change in Overall Abortion Rate (Females, Ages 15–44)
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

* Statistical significance at the 0.10 level.
 ** Statistical significance at the 0.05 level.
 *** Statistical significance at the 0.01 level.

Note: For the full regression results, see Table A2 in Appendix A.
Source: Author's calculations based on data from the Centers for Disease Control and Prevention.



on the minor abortion rate is considerably larger than their predicted impact on the overall abortion rate, since parental involvement laws are intended to affect

26. For a description of using natural experiments to examine the impact of legislation on the incidence of abortion, see Michael J. New, Ph.D., "Using Natural Experiments to Analyze the Impact of State Legislation on the Incidence of Abortion," Heritage Foundation Center for Data Analysis Report No. CDA06–01, January 23, 2006, at www.heritage.org/Research/Family/upload/93160_1.pdf.

only minors. The difference in the size of the impact provides evidence that parental involvement laws, not broad value shifts, are affecting minors' decisions.

As expected, informed consent laws appear to have a negative and statistically significant effect on the overall abortion rate and the minor abortion rate, although the impact on the minor abortion rate is smaller. Both findings are consistent with expectations. If minors seek abortions because they do not want to reveal their pregnancy or sexual activity to their parents, informed consent laws that give them information about the development of their unborn children and private and public sources of support may have little impact on their decisions. Yet if adults seek abortions for reasons that are different from those of minors, such as financial hardship, informed consent laws could have a larger impact on them. This provides further evidence that legislation is influencing decisions.

Also consistent with our expectations, the results in Table 3 indicate that partial birth abortions have a larger impact on the overall abortion rate than on the minor abortion rate. This is likely because most minors, who seek abortions relatively early in their pregnancy, would be unaffected by such a law. However, we cannot be confident of this finding since neither coefficient reaches conventional levels of statistical significance. Limited data on partial abortion bans are available for analysis because most states did not enact such laws until the late 1990s. Finally, the coefficient estimates for Medicaid funding restrictions are large, negative, and statistically significant in both regressions, which is expected since children of Medicaid recipients are usually eligible for publicly funded abortions, and both minors and adults would be affected by changes in Medicaid funding for abortion.

Overall, these regression results provide solid evidence that pro-life legislation had an impact on the incidence of abortion during the 1990s. Pro-life legislation appears to be responsible for the decline in abortion among minors during the past decade. If unobserved influences such as shifts in values were responsible instead, then parental involvement laws and informed consent laws would have similar effects on the minor abortion rate and the overall abortion rate. However, the results suggest the opposite: 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. These findings strengthen the case for the effectiveness of pro-life legislation.

Experiment #2: Comparing Enacted Legislation to Nullified Legislation. Comparing the effects of pro-life legislation on the minor abortion rate to its effects on the overall abortion rate is one approach to fixing endogeneity problems. Another method is to compare effects on the abortion rate in states where judiciaries nullified parental involvement legislation to effects in states that retained the law.

If pro-life legislation is enacted because prevailing social values are changing, its subsequent nullification by the judiciary does not necessarily reflect a reversal in value shifts because judicial decisions are more likely to reflect the prevailing jurisprudence than they are to reflect values held by the general population. However, if the passage of pro-life legislation is attributable to shifts in values, then all states that enact such legislation could reasonably be assumed to be experiencing such value shifts, even if certain state judiciaries render adverse rulings afterwards.

Thus, if value shifts, not legislation per se, are responsible for declining abortion rates, then states where the legislation was upheld and states where the legislation was nullified would be expected to experience similar declines in the abortion rate. However, if the legislation is responsible for the declines, then states that upheld their legislation would experience, on average, significantly larger reductions in their abortion rates than would be experienced by states where judiciaries struck down the laws.

In recent years, judges have blocked or delayed the enactment of parental consent laws on at least six occasions. (See Table 4.) A nullified parental involve-

Table 4		CDA 07-01
Recent Judicial Nullifications of Parental Involvement Laws		
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	
<p>Sources: Jon Merz, Catherine Jackson, and Jacob Klerman, "A Review of Abortion Policy: Legality, Medicaid Funding, and Parental Involvement, 1967–1994." <i>Women's Rights Law Reporter</i>, Vol. 17, No. 1 (1995), pp. 12–57, and NARAL Foundation, <i>Who Decides? 1991–2000</i>.</p>		

Table 5 CDA 07-01

Examining the Impact of Parental Involvement Laws

Status of Law	Minor Abortion Rate
Enacted	-1.59***
Nullified	0.35
Difference	-1.94*

* Statistical significance at the 0.10 level.
 *** Statistical significance at the 0.01 level.

Notes: For the full regression results, see Table A3 in Appendix A.
Source: Author's calculations based on data from the Centers for Disease Control and Prevention and the U.S. Census Bureau.

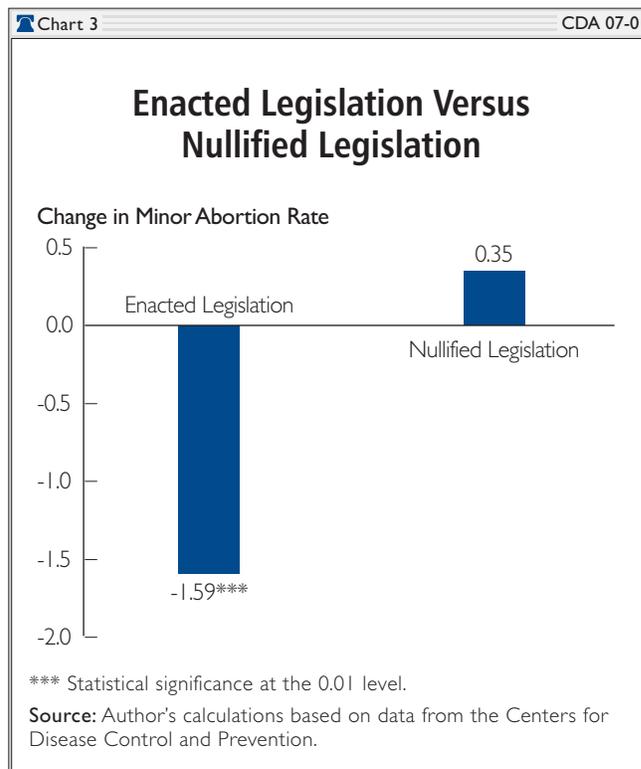
ment variable is added to the regression model to test for changes associated with a nullified law. I then compare changes in the minor abortion rate associated with enacted laws to changes associated with nullified laws. The results are presented in Table 5.

The results in Table 5 indicate that states where parental involvement laws are enforced experience, on average, a significantly larger reduction in abortion among minors than is experienced by states where the laws are nullified. Enforced parental involvement laws are correlated with statistically significant declines in abortion rates. In contrast, nullified parental involvement laws are associated with increases in the incidence of abortion, although the associated increases are not statistically significant.

Collectively, findings from both natural experiments offer solid evidence that parental involvement legislation, not value shifts that may be correlated with the passage of these laws, is responsible for the declines in the minor abortion rate.

CONCLUSION

Although the decline in the overall incidence of abortion during the 1990s has been widely reported, scant attention has been paid to the more dramatic reduction in abortion rates among minors. Between 1985 and 1999, the minor abortion rate fell by almost 50 percent, compared to a 29 percent decline in the overall abortion rate. While a number of factors may have contributed to this decline, the impact of pro-life legislation on the incidence of abortion among minors cannot be overlooked.



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 laws enacted to protect the unborn during the 1990s. By the end of the decade, more states had adopted pro-life legislation, including parental involvement requirements.²⁷ Regression results from this analysis suggest that parental involvement laws and public funding restrictions are effective in reducing the incidence of abortion among minors. Specifically, the passage of a parental involvement law correlates with a 16 percent decline in the minor abortion rate, and the passage of Medicaid funding restrictions correlates with a 23 percent decline in the minor abortion rate.

The results from the two natural experiments conducted in this analysis provide further evidence of the effectiveness of pro-life legislation. In the first model, the individual effects of four pro-life policies on the minor abortion rate and on the overall abortion rate are compared. The findings reveal that parental involvement laws are more effective in reducing the incidence of abortion among minors than among the general population.

The second model compares changes in the minor abortion rate associated with enacted paren-

27. NARAL Foundation, *Who Decides?* 1992, pp. 125–127, and *Who Decides?* 2000, pp. 125–127.

tal involvement laws to changes associated with nullified laws. The results suggest that enforced laws were significantly more effective than nullified laws in reducing the abortion rate. Moreover, the regression results indicate that parental involvement laws were considerably more effective in reducing the abortion rate for minors than they

were in reducing the overall abortion rate. Taken together, the evidence strongly suggests that pro-life legislation played a role in the nationwide decline in the incidence of abortion among minors.

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APPENDIX A: REGRESSION RESULTS

Table A1		CDA 07-01	
Impact of Pro-Life Legislation on the Incidence of Abortion Among Minors			
Dependent Variable	Model 1 Minor Abortion Rate (standard error)		
Number of Observations	566		
Income Growth	-0.04 (0.06)		
Percent Black	0.46*** (0.16)		
Percent Native American	0.59 (0.46)		
Percent Hispanic	0.01 (0.11)		
Percent Asian	-1.00*** (0.29)		
Parental Involvement	-1.67*** (0.29)		
Medicaid Funding Restriction	-2.34*** (0.51)		
Informed Consent	-0.53* (0.28)		
Partial Birth Ban	-0.33 (0.48)		
Constant	3.74*** (0.42)		
R Squared	0.967		
* Statistical significance at the 0.10 level. *** Statistical significance at the 0.01 level.			
Technique: Fixed effects with state and year indicator variables, panel-corrected standard errors, data weighted by state population.			
Source: Author's calculations based on data from the Centers for Disease Control and Prevention.			

Table A2			CDA 07-01		
Analyzing the Minor Abortion Rate and the Overall Abortion Rate					
Dependent Variable	Model 1 Minor Abortion Rate (standard error)		Model 2 Overall Abortion Rate (standard error)		
Number of Observations	566		650		
Income Growth	-0.04 (0.06)		-0.19** (0.07)		
Percent Black	0.46*** (0.16)		0.95*** (0.22)		
Percent Native American	0.59 (0.46)		0.08 (0.16)		
Percent Hispanic	0.01 (0.11)		0.43*** (0.12)		
Percent Asian	-1.00*** (0.29)		-1.63*** (0.24)		
Percent Ages 15–19	–		-0.54** (0.24)		
Percent Ages 20–25	–		0.38** (0.18)		
Percent Ages 25–29	–		0.27 (0.23)		
Parental Involvement	-1.67*** (0.29)		-1.05** (0.35)		
Medicaid Funding Restriction	-2.34*** (0.51)		-2.16*** (0.46)		
Informed Consent	-0.52* (0.28)		-1.06*** (0.29)		
Partial Birth Ban	-0.33* (0.48)		-1.02 (0.64)		
Constant	3.74*** (0.42)		-4.87*** (8.45)		
R Squared	0.967		0.971		
* Statistical significance at the 0.10 level. ** Statistical significance at the 0.05 level. *** Statistical significance at the 0.01 level.					
Technique: Fixed effects with state and year indicator variables, panel-corrected standard errors, data weighted by state population.					
Source: Author's calculations based on data from the Centers for Disease Control and Prevention.					

Table A3 CDA 07-01

Comparing Nullified Legislation to Enacted Legislation

Dependent Variable	Model I Minor Abortion Rate (standard error)
Number of Observations	566
Income Growth	-0.03 (0.06)
Percent Black	0.48*** (0.16)
Percent Native American	0.60 (0.46)
Percent Hispanic	0.02 (0.11)
Percent Asian	-0.99*** (0.29)
Parental Involvement	-1.59*** (0.32)
Nullified Parental Involvement	0.35 (0.52)
Informed Consent	-0.55** (0.28)
Medicaid Funding Restriction	-2.41*** (0.52)
Partial Birth Ban	-0.32 (0.48)
Constant	3.07*** (0.44)
R Squared	0.967

* Statistical significance at the 0.10 level.

** Statistical significance at the 0.05 level.

*** Statistical significance at the 0.01 level.

Technique: Fixed effects with state and year indicator variables, panel-corrected standard errors, data weighted by state population.

Source: Author's calculations based on data from the Centers for Disease Control and Prevention.

APPENDIX B: INFORMATION ON THE CDC DATA

Some data are missing or omitted for the following reasons:

1. **Failure to report data on the incidence of abortion.** Alaska, California, New Hampshire, and Oregon did not report any abortion data to the Centers for Disease Control and Prevention in 1998 and 1999.
2. **Data intentionally omitted by researcher.** Data from Alaska are omitted as a result of data collection problems. Data from Kansas are omitted as well. According to CDC data, the abortion rate jumped an astounding 69 percent between 1991 and 1999, and this increase cannot be traced to any shifts in the economy, policy, or demographics in Kansas or in neighboring states. Instead, the presence of a Dr. Tiller, one of the few doctors in the country who specializes in late-term abortions, appears to be responsible for this increase. Indeed, for every year between 1992 and 1999, the CDC reports that over 40 percent of the abortions in Kansas were performed on out-of-state residents, by far the highest figure for any state.
3. **Data omitted because of changes in collection mechanism.** Nearly all states reported abortion data to the CDC through their central health agencies. However, some state data were obtained from hospitals and other medical facilities. Since these differences in reporting may bias the results, data from the following

states and years are omitted from CDC published figures:

Alabama	1981–1990
Iowa	1981–1997
New Hampshire	1981–1997
West Virginia	1981–1998
Illinois	1984–1987
Kentucky	1984–1986
Oklahoma	1984–1997

4. **States failing to report data on the incidence of abortion among minors.** The following states failed to report data for the following years:

Alabama	1992
California	1985–1997
Connecticut	1989–1992
Delaware	1985–1996
Florida	1985–1999
Hawaii	1987
Illinois	1988–1999
Indiana	1988 and 1992
Iowa	1998
Kentucky	1999
Louisiana	1986–1987
Massachusetts	1986–1986
Michigan	1985–1988
New Jersey	1985–1990
Ohio	1988
Texas	1985–1986
Wisconsin	1985–1986 and 1989
Wyoming	1986

APPENDIX C

Table C1		CDA 07-01
States with Parental Involvement Laws, 1981–2000		
State	Years	
Alabama	September 23, 1987–2000	
Arizona	July 21, 1982–mid 1985	
Arkansas	March 1, 1989–2000	
Connecticut	October 1, 1990–1998	
Delaware	1996–2000	
Georgia	September 1991–2000	
Idaho	1996–2000	
Indiana	September 1984–2000	
Iowa	1997–2000	
Kansas	July 1, 1992–2000	
Kentucky	July 15, 1994–2000	
Louisiana	November 18, 1981–2000	
Maine	September 30, 1989–2000	
Maryland	December 3, 1992–2000	
Massachusetts	April 15, 1981–2000	
Michigan	March 28, 1991–August 5, 1992 March 31, 1993–2000	
Minnesota	August 1, 1981–November 6, 1986 October, 1990–2000	
Mississippi	May 26, 1993–2000	
Missouri	June 15, 1983–November 4, 1983 August 7, 1985–2000	
Nebraska	September 6, 1991–2000	
North Carolina	1996–2000	
North Dakota	March 31, 1981–2000	
Ohio	October 1990–2000	
Pennsylvania	March 20, 1994–2000	
Rhode Island	September 1, 1982–2000	
South Carolina	May 26, 1990–2000	
South Dakota	1998–2000	
Tennessee	November 19, 1992–1996 and 2000	
Texas	2000	
Utah	January 1, 1981–2000	
Virginia	1998–2000	
West Virginia	May 23, 1984–2000	
Wisconsin	July 1, 1992–2000	
Wyoming	June 8, 1989–2000	
Sources: Jon Merz, Catherine Jackson, and Jacob Klerman, "A Review of Abortion Policy: Legality, Medicaid Funding, and Parental Involvement, 1967–1994," <i>Women's Rights Law Reporter</i> , Vol. 17, No. 1 (1995), pp. 12–57, and NARAL Foundation, <i>Who Decides?</i> 1991–2000.		

APPENDIX D

Table D1		CDA 07-01
States Where Medicaid Pays for Therapeutic Abortions, 1981–2000		
State	Years	
Alaska	January 1, 1981–1998, 2000	
California	January 1, 1981–2000	
Colorado	January 1, 1981–June 4, 1985	
Connecticut	January 1, 1981–February 15, 1981 October 9, 1981–2000	
District of Columbia	January 1, 1981–October 1, 1988 October 29, 1993–1997	
Georgia	January 1, 1981–March 15, 1981	
Hawaii	January 1, 1981–2000	
Idaho	1995–1998	
Illinois	December 2, 1994–1998	
Maryland	January 1, 1981–1997 and 1999–2000	
Massachusetts	January 1, 1981–2000	
Michigan	January 1, 1981–December 12, 1988	
Minnesota	1995–2000	
Montana	1996–2000	
New Jersey	January 1, 1981–2000	
New Mexico	December 1, 1994–1995 and 1999–2000	
New York	January 1, 1981–2000	
North Carolina	January 1, 1981–1995	
Oregon	January 1, 1981–2000	
Pennsylvania	January 1, 1981–February 15, 1985	
Vermont	September 28, 1984–2000	
Washington	January 1, 1981–2000	
West Virginia	January 1, 1981–2000	
Sources: Jon Merz, Catherine Jackson, and Jacob Klerman, "A Review of Abortion Policy: Legality, Medicaid Funding, and Parental Involvement, 1967–1994," <i>Women's Rights Law Reporter</i> , Vol. 17, No. 1 (1995), pp. 12–57, and NARAL Foundation, <i>Who Decides?</i> 1991–2000.		

APPENDIX E

Table E1		CDA 07-01
States with Informed Consent Laws, 1981–2000		
State	Years	
Alabama	1992–present	
California	1993–present	
Connecticut	1993–present	
Delaware	1992–present	
Florida	1992–1997	
Idaho	1992–present	
Illinois	1993–1994	
Kansas	1993–present	
Kentucky	1992–present	
Louisiana	1992–present	
Maine	1995–present	
Massachusetts	1992–present	
Michigan	October 26, 1998– February 1, 1999 September 15, 1999–2000	
Minnesota	1993–present	
Mississippi	1993–present	
Montana	1992–1995	
Nebraska	1992–present	
Nevada	1992–present	
North Dakota	1995–present	
Ohio	1992–1993 and 1995–present	
Pennsylvania	1992–present	
Rhode Island	1992–present	
South Carolina	1993–present	
South Dakota	1992–present	
Tennessee	1992–present	
Texas	1993–1995	
Utah	1992–present	
Virginia	1992–present	
Wisconsin	1992–1996 and 1999–present	
Sources: NARAL Foundation, <i>Who Decides?</i> 1991–2000, and Right to Life of Michigan, “A Woman’s Right to Know—Informed Consent,” at www.rtl.org/html/legislation/woman_t_right_to_know.html (January 22, 2007).		

APPENDIX F

State	Years
Alabama*	1998–2000
Georgia*	1998–2000
Indiana	1998–2000
Kansas	1999–2000
Mississippi	1998–2000
Nebraska*	1997
North Dakota	2000
Oklahoma	1999–2000
South Carolina	1998–2000
South Dakota	1998–2000
Tennessee	1998–2000
Utah	1997–2000
Virginia*	1999–2000

* Judges in Alabama, Georgia, Nebraska, and Virginia have ruled that partial birth abortions are allowed if they are necessary to save the life of the mother.

Source : NARAL Foundation, *Who Decides?* 1991–2000.