# The Mysterious Decline in Teen Suicidality in The US during the late 1990s\*

A Statistical Analysis of the relationship between Legalized Abortion and Teen Suicidality in late 1990s US.

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This study investigates the correlative relationship between abortion rates and teen suicidality rates in the United States from 1973 to 2000. Using annual timeseries data on Abortions and Teen Suicide Rates, I found a significant correlation between abortion rates and teen suicide rates during the studied period, suggesting that the availability of legal abortion might have contributed to the reduction in the number of children born into adverse family conditions and, consequently, alleviated the risk factors for teen suicidality. This research highlights the importance of considering the broader social and psychological implications of abortion policies and calls for further exploration of the causal mechanisms and long-term impacts.

### 1 Introduction

The dramatic decline in teen suicide rates in the United States during the the late 1990s and early 2000s is still considered a mystery in present day in both public and academic discussion Males (1997). Like the sudden decline in crime that also mysteriously occurred during the late 1990s Ford (2021), teen suicide rates fell in the same fashion following a similar trend. A wide array of factors may have contributed to this phenomenon, and understanding these variables is crucial for developing effective strategies to maintain and further improve mental health among adolescents, especially during an where American teen suicide rates are dramatically rising again Rinehart and Barkley (2023). In this paper, I will investigate the potential variables (in this case, legalized abortion) and its correlative relationship with teen suicidality in the United States. I will be focusing on the data between 1973 and 2000, but also include data from up to 2016. By doing so, I hope to shed light on the impact of the

<sup>\*</sup>Code and data are available at: https://github.com/chrislu2234/suicidality\_report\_1990s

legalization of abortion on the suicidality rates of young people, particularly in the context of how it influences family functioning and relationships.

### 1.1 Crime and Adverse Childhoods

Several key studies and articles inform my research. Levitt and Donohue's Donohue and Levitt (2019) seminal work, "The Impact of Legalized Abortion on Crime Over The Last Two Decades," attributes the enactment of Roe v. Wade in 1973 as a major factor contributing to the decline in crime rates across the nation. The authors argue that legalized abortion allowed mothers in emotionally and economically challenging circumstances to make informed choices they couldn't have before, ultimately reducing the number of children born into adverse family conditions to be incentivized towards criminal behavior.

### 1.2 Suicidal Ideation and Adverse Family Conditions

Building on Levitt and Donohue's findings on the impact of legalized abortion on adverse family conditions, in the qualitative study, "Exploring the Family Factors Associated with Suicide Attempts among Adolescents and Young Adults," Mathew et al. (2020) establishes a connection between the quality of family functioning and relationships and the likelihood of teen suicidality. This connection provides a potential pathway through which legalized abortion might have indirectly contributed to the observed decline in teen suicidality during the 1990s.

Finally, "The Relationship of Family Functioning and Suicidal Ideation among Adolescents: The Mediating Role of Defeat and the Moderating Role of Meaning in Life," Yang et al. (2022) provide quantitative data supporting the impact of family conditions on teen suicidality. Their research further corroborates the findings of the previously mentioned work and highlights the importance of considering family factors in understanding the decline in teen suicide rates.

Drawing upon these studies and articles, I will conduct a comprehensive analysis to examine the potential correlative relationship between abortion rates and teen suicidality. My investigation will provide valuable insights into the complex interplay between abortion policies, family functioning, and suicidality among adolescents in the United States.

### 1.3 Sections

In section 1 of this paper, I have introduced the significance of my statistical question and the literature and discussion that surrounds it. In section 2, I will expand on the dataset I have used for my findings and describe the reasons why I have chosen certain variables for my study. In section 3, I will describe the 4 models used to investigate the correlation between abortion rates enabled by legalization and teen suicide rates between the same time frame. I will summarize my findings in section 4 and provide a discussion of them in section 5 with

acknowledgement of limitations and further actions that can be taken to enhance this topic of research. This paper uses R R Core Team (2020), Tidyverse Wickham et al. (2019), and Ggplot2 Wickham (2016) to render, visualize, and clean all the data and graphs.

### 2 Data

### 2.1 Introduction of Data

For this study, I collected data on teen suicides and abortion rates from two primary sources. The data on teen suicides were obtained from the CDC WONDER's Compressed Mortality database Wonder (2023), which encompasses mortality and population counts for all U.S. counties. The CDC WONDER's Compressed Mortality database is a comprehensive, public health information system maintained by the Centers for Disease Control and Prevention (CDC). It serves as a valuable resource for researchers, public health professionals, and policymakers, providing access to a wide range of data related to mortality and population counts for all U.S. counties. The database enables users to retrieve and analyze vital statistics data on various aspects of mortality, such as cause of death, state, county, age, race, sex, and year. The data on abortion rates and numbers were obtained from the Guttmacher Institute's "Pregnancies, Births and Abortions in the United States" Maddow-Zimet and Kost (2022) report. This report provides comprehensive data on pregnancy outcomes, including abortions, live births, and miscarriages, in the United States. The report presents vital statistics on abortion rates, ratios, and numbers, as well as data on pregnancy rates and birth rates among different age groups, particularly focusing on women of reproductive age (15-49 years old).

### 2.2 Data Context

The purpose of the Compressed Mortality database is to support evidence-based decision-making and inform public health policies, programs, and interventions. By providing a centralized and accessible platform for mortality data, the CDC WONDER system helps users identify trends, disparities, and patterns in mortality, which can be crucial for understanding and addressing health-related issues. The database typically serves to facilitate research and analysis on the health status of the U.S. population, monitor changes in mortality over time, and evaluate the effectiveness of public health initiatives. Moreover, it assists in identifying areas that may require targeted interventions, resources, or further investigation.

On the other hand, the purpose of Guttmacher Institute's report is to inform researchers, policymakers, healthcare providers, and the general public about the current state of reproductive health and pregnancy outcomes in the United States. By maintaining and updating this report, the Guttmacher Institute contributes to a better understanding of the factors that influence reproductive health decisions and outcomes, as well as the effectiveness of reproductive health policies and programs. Furthermore, the Guttmacher Institute's dataset is the same source

used by Levitt and Donohue to support their findings. Additional details on data collection can be found in the Methodology Appendix of the website.

### 2.3 Data Gathering

To collect data from the desired year ranges (1973-2016), I used three different request forms: Mortality for 1999-2016 with ICD 10 codes, Mortality for 1979-1998 with ICD 9 codes, and Mortality for 1968-1978 with ICD 8 codes. Each request form was submitted to obtain data on suicide deaths among individuals aged 15-19 in the U.S. population, including gender as a variable to identify any differences. The definition of suicide remained consistent across all year ranges as death caused by "self-inflicted harm," despite varying ICD codes. Further information on data retrieval can be found in the readme file. I extracted information on abortion rates between 1973 and 2017, where abortion rates are defined as the number of abortions per 1,000 women in a given year. The dataset was obtained by saving it as a CSV file from the Guttmacher Institute's website. Both the CDC WONDER's Compressed Mortality database and the Guttmacher Institute's Database and Research on Abortion Rates are comprehensive and census-like in nature, minimizing the risk of biases in the data. This robustness allows for a reliable analysis of the correlative relationship between teen suicide rates and abortion rates during the studied period.

For the purposes of this paper, I collected both data up to 2016 from CDC WONDER's Compressed Mortality Database and up to 2017 from Guttmacher Institutes' abortion dataset. However, for parts of the analysis, I will only analyze up to year 2000, as I believe the sudden spike in teen suicide rates near the early 2010s is out of the scope of this paper. I will be running a linear time-series regression to explore how correlated the two factors may be, and whether or not abortion rates can be a good explanation for the decline in teen suicides in the late 1990s.

### 2.4 Data Exploration and Contextualization

Before engaging with the models, it is best to first understand the data. In the exploratory stage of my analysis, I visually represented teen suicide rates between 1973 to 2016. Afterwards, I explored the differences in these rates between males and females, demonstrating to what extent gender affects the statistics in teen suicides. I plotted abortion rates between the years 1973 to 2016. I then plotted teen suicide rates against abortion rates as an attempt to visually demonstrate the potential relationship between the two unimodal plots.

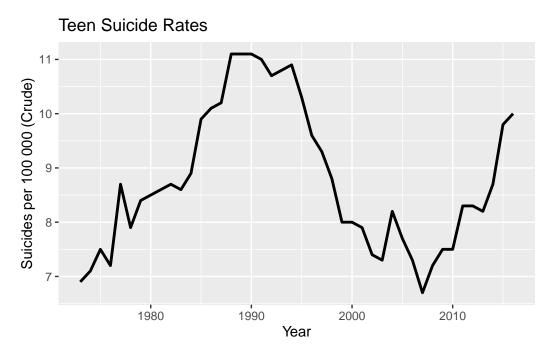


Figure 1: Visualization of suicide Rates of Teens (Crude Rate of Suicides Per 100 000) Between 1973 to 2016. If we look at the plot from before the 2000s, it appears to be nearly unimodal. There is a rise that peaks around the 1990s, and immediately declines in 1995.

# Teen Suicide Rates (Crude per 100 000) for Males (approximate provided a seption of the seption

Figure 2: Visualization of suicide Rates of Teens (Crude Rate of Suicides Per 100 000) Between 1973 to 2006 for Males. This figure also is nearly unimodal before the 2000s. There is a rise that peaks around the 1990s, and immediately declines in 1995.

Year

It is important to note here in Figure 1 that the rate of suicides among male teens is higher than that of the total, indicating (as will be demonstrated by Figure 3 later) that female teen suicide rates are likely much lower.

## Teen Suicide Rates (Crude per 100 000) for Females.

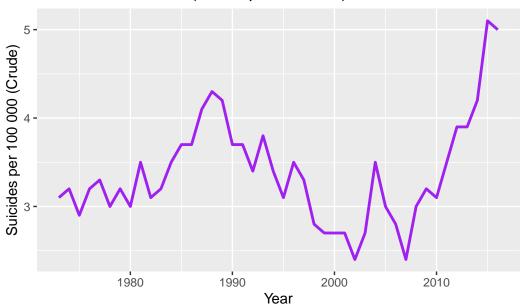


Figure 3: Visualization of crude female teen suicide rates per 100 000 between 1973 to 2016. There is a rise that peaks around the 1990s, and immediately declines in 1995.

### Suicide Rates of Male and Female Teens

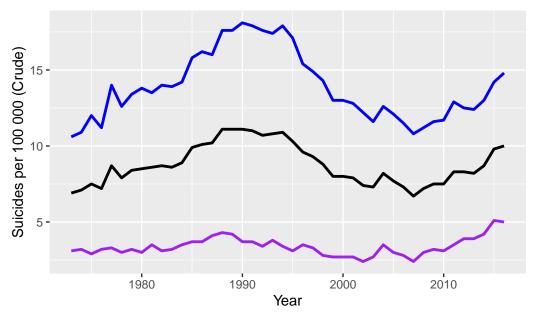


Figure 4: Visualization of crude male, female, and all teen suicide rates per 100 000 between 1973 to 2016. As mentioned before, there is a disproportionately high amount of male teen suicides in comparison to females. this averages out in the black bar in the middle, which represents the suicide rates of all teens overall.

Figure 3 Shows a unimodal movement in female teen suicides from 1973 to 2016. Contrary to male teen suicides, the unimodality of this figure is not as severe. Furthermore, the rate is dramatically lower than that of male teens. This lower suicide rate among female teens explains why overall teen suicide rates are lower than male teen suicide rates in Figure 4.

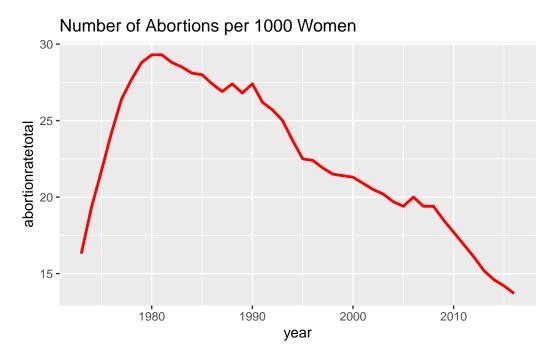


Figure 5: Abortion rates (Number of Abortions per 1000 Women) between 1973 to 2016. Red line follows the increase and decreases of this trend over time.

### Suicide Rates of Teens vs. Abortion Rates

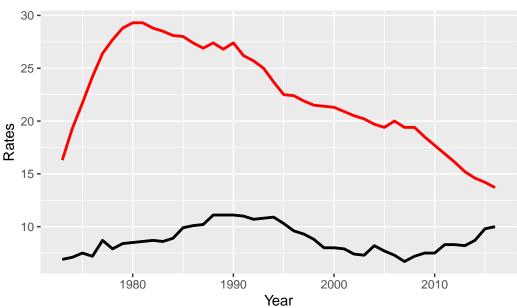


Figure 6: Teen Suicide Rates vs. Abortion Rates

In Figure 5, we can see the sudden rise in abortion rates after 1973 as a product of the Roe v. Wade Supreme court Decision to Legalize Abortion. After this, we see how this widespread legalization lead to an improvement to accessible abortion resources and a spike in abortion rates. This trend peaks around the 1980s, and follows a slow decline afterwards.

Figure 6 represents an attempt to plot teen suicide rates against abortion rates. However, this plot provides very little information on the topic, as the rates are not proportional to one and another. But if we look closely, the dramatic increase in abortion rates in 1973 can be argued to have manifested in the sharp decline in teen suicides in 1995.

### 3 Models

In modelling, I fit changes in abortion rates in relation to changes in teen suicide rates to properly determine the extent of its effects. To engage in proper regression analysis, I also used Fable O'Hara-Wild, Hyndman, and Wang (2023), Tsibble Wang, Cook, and Hyndman (2020), and Flextable Gohel and Skintzos (2023). Fable offers a wide variety of packages dedicated to forecasting models that use univariate and multivariate time series forecasting models. For this paper, I used a time series linear regression to explore the relationship and influences abortion rates may have had on teen suicide rates. Tsibble was included to help transform my data frames into Time Series Tibbles that the time series linear regression code

is able to use. Finally, I included Flextable to improve presentation and overall clarity of summary statistics.

The most difficult aspect to justify by far is the reason of using rates rather than count (frequency) to perform the regression analysis. This makes it difficult as it means the distribution being analyzed is not a distribution but rather a series of counts and averages. However, like temperatures and precipitations over time, a time-series linear regression allows us to demonstrate at least a possible explanatory relationship between these two variables.

### 3.1 Model 1: Abortion Rates and Suicide Rates

The Time series linear regression model I will be working with is written below:

$$TSR_t = \beta_0 + \beta_1 AR_t + \epsilon_t$$

In the following model:

- The Dependent variable being investigated is Teen Suicide Rates, denoted in TSR.
- Beta0 represents the intercept, which is a point that will be the starting point of the estimate.
- Beta1 represents the estimate (slope) of the regression, which represents the percent change in TSR for increase in Abortion Rates (denoted as AR).
- Epsilon represents the innovation terms in a Time-Series Linear Model, such as potential errors.

The first time series linear regression model looked at the relationship between abortion rates and teen suicide rates between the years 1973 to 2000s without any adjustments made to either variables. The output was very troubling, the coefficient reported an increase in suicides for each percentage increase in abortions. This followed with a weak R-squared, demonstrating that it was very difficult to explain suicide rates in 1973-2000 with abortion rates in 1973-2000. This model's inability to investigate the relationship between the two factors was becase the time series linear regression model is unaware that natal decisions will only have an impact on the population presented around 15-19 years later.

### 3.2 Model 2: Adjusted Abortion Rates and Suicide Rates.

$$TSR_t = \beta_0 + \beta_1 AAR_t + \epsilon_t$$

Hence, I produced a second model with an adjusted rate of abortion. Rather than analyzing the relationship between suicide rates and abortion strictly by their numbers in each of those years, I looked to analyze the relationship between teen suicide rates and abortion rates from

17 years prior. I believe this is the best way to represent the impacts abortions have on the quality of life of children born after its legalization in the United States.

In other words:

- The Dependent variable being investigated is Teen Suicide Rates, denoted in TSR.
- Beta0 represents the intercept, which is a point that will be the starting point of the estimate.
- Beta1 represents the estimate (slope) of the regression, which represents the percent change in TSR for increase in Adjusted Abortion Rates (denoted as AR), AAR are 1973 abortion rates placed in 1990 as a way to represent its effects.
- Epsilon represents the innovation terms in a Time-Series Linear Model, such as potential errors.

# 3.3 Models 3 and 4: Adjusted Abortion Rates vs. Male and Female Teen Suicide Rates

In this second model, I was able to demonstrate the relationship between teen suicide rates and abortions, showing how an increase in abortions from 17 years prior decreased teen suicides. Furthermore, the R Squared of this model was a notable  $\sim 0.500$ . I produced 2 additional models to see if this stands with male and female teens as well. These two additional models are:

$$TSRm_t = \beta_0 + \beta_1 AAR_t + \epsilon_t$$
$$TSRf_t = \beta_0 + \beta_1 AAR_t + \epsilon_t$$

In both the equations above:

- The Dependent variable being investigated are Teen Suicide Rates for males sand females, denoted in TSRm and TSRf.
- Beta0 represents the intercept, which is a point that will be the starting point of the estimate.
- Beta1 represents the estimate (slope) of the regression, which represents the percent change in TSR for increase in Adjusted Abortion Rates (denoted as AR), AAR are 1973 abortion rates placed in 1990 as a way to represent its effects.
- Epsilon represents the innovation terms in a Time-Series Linear Model, such as potential errors.

Overall, I produced 6 figures and 4 models (which includes one table and one figure each) to demonstrate the potential influences abortion rates in 1973 may have had on teen suicide rates in the 1990s. By demonstrating that the rise in abortion rates in 1973 can to a certain extent statistically explain the decline in teen suicides in the 1990s, I believe I have shown that there may be a significant relationship between these two variables worthy of further investigation.

### 4 Results

### 4.1 Model 1

Table 1: Abortion Rates and its Effects on Teen Suicide Rates

Terms	Values
Intercept	5.442
AAR Coeff.	-0.150
R2	0.144
R2 Adj	0.568
P-Value	0.047

Summary Table 1 is the total summary output of the Time Series Linear Regression in the time frame between 1973-2000. As mentioned earlier, this output is concerning, as the coefficient suggests an increase in suicides for increase in abortions. Additionally, the model yields a weak R-squared (both multiple and adjusted), indicating that this model is unable to explain suicide rates using abortion rates.

Figure 7 plots changes in abortion rates with changes in suicide rates. As mentioned above, this yields a regression model that believes that the increase in abortion rates means an increase in suicide rates.

As written earlier, the limitation of this model and both its table and visual output is its inability to account for the fact that natal decisions would only have impact on suicide rates approximately 15-19 years later. This inherent constraint in the model necessitated further exploration of alternative approaches to better analyze the relationship between these two variables effectively.

In Models 2, 3, and 4, I will implement a new variable: adjabtrates (for Adjusted Abortion Rates) in my analysis to properly analyze the relationship between abortion rates and teen suicide rates in the 1990s. This new variable will simply place the value of abortion rates in

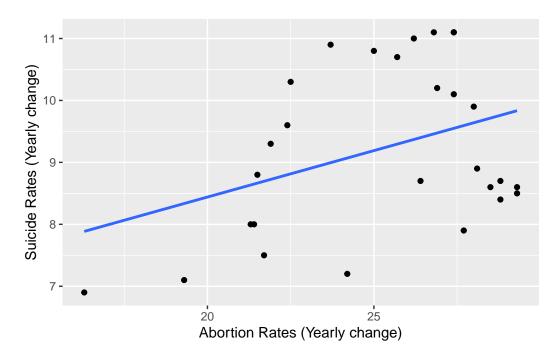


Figure 7: Regression Line of Abortion Rates and its Effects on Teen Suicide Rates.

1973 with teen suicide rates in 1990s. In other words, I will use abortion rates from 17 years prior to measure the suicide rates of teenagers. I believe this is the best way to represent the impacts abortions have on the quality of life of children born after its legalization in the United States. In other words, I will use adjabtrates to properly contextualize the decrease in teen suicides with the rise in abortion rates.

### 4.2 Model 2

Table 2: Adjusted Abortion Rates and its Effects on Teen Suicide Rates.

Terms	Values
Intercept	14.812
AAR Coeff.	-0.194
R2	0.546
R2 Adj	0.495
P-Value	0.009

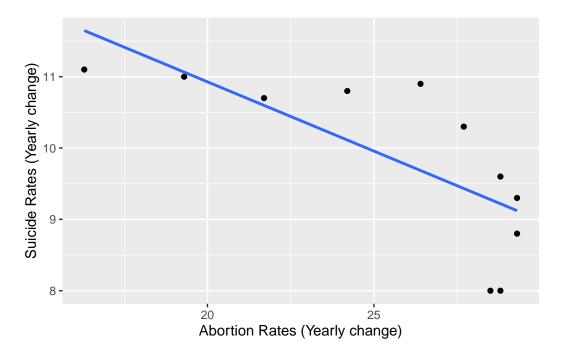


Figure 8: Regression Line of Adjusted Abortion Rates and its Effects on Teen Suicide Rates.

Summary Table 2 is the total summary output of the Time Series Linear Regression in the time frame between 1990-2000. Instead of analyzing the relationship between suicide rates and abortion rates solely based on their values in the same year, I examined the association between teen suicide rates and abortion rates from 17 years prior in order to avoid the aforementioned limitation.

Figure 8 beautifully depicts the analysis provided in Table 2, as the plot properly depicts the relationship between abortion rates and suicide rates. As demonstrated in Figure 8, the peak in abortions from 17 years prior in abortion rates in 1973-1983 correlates with the decrease in suicide rates in 1990-2000.

I demonstrated a relationship between teen suicide rates and abortions, revealing that an increase in abortions from 17 years prior was associated with a sizeable decrease in teen suicides. The R-squared value for this model was notably stronger, at approximately 0.500, indicating better explanatory power. Furthermore the summary analysis also provides a sensible estimate, demonstrating that an increase in abortion rates meant on average a decrease in teen suicides.

### 4.3 Model 3

Table 3: Adjusted Abortion Rates and its Effects on Male Teen Suicide Rates

Terms	Values
Intercept	24.325
AAR Coeff.	-0.324
R2	0.542
R2 Adj	0.491
P-Value	0.010

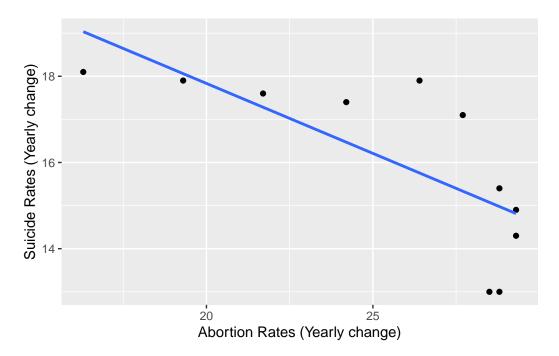


Figure 9: Regression Line of Adjusted Abortion Rates and its Effects on Male Teen Suicide Rates.

Summary Table 2 is the total summary output of the Time Series Linear Regression in the time frame between 1990-2000 for male teen suicide rates and adjusted abortion rates. Table 2 shows a similar result to Table 1, with a larger estimate.

Figure 9 also corroborates with this analysis, as the plot properly depicts the relationship

between abortion rates and male teen suicide rates. As demonstrated in Figure 9, the peak in abortions from 17 years prior in abortion rates in 1973-1983 correlates with the decrease in suicide rates in 1990-2000.

Overall, male teen suicide rates are significantly impacted by the rise in abortion rates that occurred starting in 1973, indicating that legalized abortion can have strong effects on the quality of life of males during youth.

### $\#\#\mathrm{Model}\ 4$

Table 4: Adjusted Abortion Rates and its Effects on Female Teen Suicide Rates

Terms	Values
Intercept	5.890
AAR Coeff.	-0.095
R2	0.604
R2 Adj	0.568
P-Value	0.002

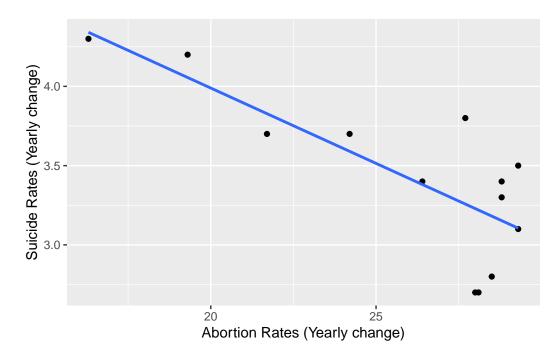


Figure 10: Regression Line of Adjusted Abortion Rates and its Effects on Female Teen Suicide Rates.

Summary Table 3 is the total summary output of the Time Series Linear Regression in the time frame between 1990-2000 for female teen suicide rates and adjusted abortion rates. Table 3 shows a similar result to Table 2, with a significantly smaller estimate but much larger R-squared. This demonstrates that while the impact of legalized abortion may affect female teen suicide rates to an extent as great as it is on males, it is nevertheless worthy of investigation.

Figure 10 shows the relationship between abortion rates and female teen suicide rates. As referred to in the comment on the larger R-squared, the points fit the line much closely than the plots in Figure 9

While female teen suicide rates are not as significantly impacted by the rise in abortion rates as males, the strong fit nevertheless provides an urge for further investigation.

### 5 Discussion

### 5.1 Natal Policy Changes Only Manifest 18 Years After.

The consequences of changes to natal laws become evident around 18 years after they are implemented. This counter intuitive yet essential notion suggests that present alterations to time-dependent events such as changes to natal laws can result in significant, unpreventable ramifications in the future and should demand an considerable amount of attention beforehand.

To correctly evaluate the impact of abortion laws and changes established 17 years prior on the suicide rates of 15-19 year-olds, I had to transform the data by only analyzing suicide rates in 1990s with abortion rates starting in 1973 rather than 1990s abortion rates. By adjusting the data to account for the lag between the implementation of natal laws and their outcomes, I was able to establish a more accurate representation of the relationship between abortion rates and teen suicide rates. This underscores the importance of ensuring that variables are analyzed based on the appropriate time frame when their outcomes manifest. It highlights the need for considering the temporal nature of certain factors, as their effects do not always materialize immediately. Not accounting for these temporal characteristics can result in overlooking meaningful insights into the relationships between variables and their potential consequences.

In light of the findings presented above, the recent Supreme Court decision to overturn Roe v. Wade raises serious concerns regarding its potential long-term consequences on public mental health. The connection between abortion rates and teen suicide rates suggests that limited access to safe and legal abortion services may result in a higher number of children born into adverse family conditions. As past research has shown, these challenging environments can significantly increase the risk factors for teenage suicide. Eighteen years from now, we may witness a considerable impact on the mental health of adolescents, as they face will the consequences of restricted abortion access of today. This potential fallout emphasizes the importance of comprehensive, evidence-based natal policies that consider not only the immediate implications of such decisions, but also their long-term effects on population health and well-being.

### 5.2 Males vs. Females

The analysis of teen suicide rates between 1973 and 2016 highlights distinct differences in trends between teen males and females. Figure 2 and Figure 3 reveal that male teen suicide rates are considerably higher than female teen suicide rates. Both male and female suicide rates experienced a rise that peaked in the 1990s and subsequently declined in 1995. Interestingly, Table 2 and Table 3 finds that changes in abortion rates have a more substantial impact on male teen suicide rates compared to female teen suicide rates.

As shown in Figure 9 and Figure 10, the relationship between abortion rates and teen suicide rates demonstrates a stronger correlation for male teens. While the female teen suicide rates are still affected to some extent, the influence of abortion rates is not as pronounced as it is for males. This finding prompts further investigation into the underlying reasons behind the differential impact of abortion rates, evaluated as adverse family conditions, on male and female teen suicide rates.

The observed disparities between male and female teen suicide rates in relation to abortion rates emphasize the importance of understanding the specific factors that contribute to these trends. A deeper exploration of how and why adverse family conditions disproportionately affect male teen suicides may shed light on targeted interventions and strategies that can be employed to address this pressing public health issue. Moreover, understanding the gender-specific dynamics at play can contribute to more effective policies and programs aimed at reducing teen suicidality and promoting mental health among adolescents.

### 5.3 A Mystery Past the 90s

While the primary focus of this research is on the relationship between abortion rates and teen suicide rates between 1973 and 2000, it is essential to acknowledge the alarming upsurge in teen suicide rates that began in the 2010s. Although this recent increase falls outside the scope of the current study, it represents a significant concern that merits further investigation.

Considering that abortion rates served as a valuable indicator for teen suicide rates in the past, the sharp rise in suicide rates during the 2010s might not be directly influenced by the growth of abortion restrictions across many states in the US. In fact, abortion rates have been on a consistent decline, while suicide rates have increased dramatically. This apparent discrepancy suggests that other factors may be contributing to the recent surge in teen suicide rates, which requires additional research to identify and address the underlying causes.

The recent Supreme Court decision to overturn Roe v. Wade could have severe consequences 18 years down the line and may exacerbate the already worrisome mental health crisis among teens. With the potential for a growing number of children born into adverse family conditions due to increased abortion restrictions, the long-term implications of this policy change may significantly impact the mental health and well-being of future generations. Consequently, it is crucial for researchers, policymakers, and healthcare professionals to collaborate in understanding and addressing the complex factors contributing to the rise in teen suicide rates, and to develop evidence-based interventions to mitigate the potential ramifications of recent policy changes on adolescent mental health.

### 5.4 Weaknesses and Next Steps

This research, while providing valuable insights into the relationship between abortion rates and teen suicide rates, has several limitations that warrant further exploration. One of the pri-

mary weaknesses is the lack of accounting for and controlling other variables that may impact teen suicide rates. The current model focuses exclusively on the association between abortion rates and suicidality, potentially overlooking other influential factors that may contribute to changes in teen suicide rates over time.

To improve the model, future research could consider incorporating multiple variables that are believed to be significant in determining teen suicidality. These additional factors may include socio-economic status, access to mental health care, prevalence of substance abuse, family dynamics, and the impact of social media on mental health. By including these variables, we can develop a more comprehensive understanding of the complex interplay of factors that contribute to teen suicide rates, and identify specific areas for targeted intervention and policy development.

Finally, the protection of reproductive rights is crucial not only for upholding human well-being but also for preventing the potentially disastrous consequences of future generations born into abhorrent family conditions. As this study suggests, maintaining access to reproductive healthcare and understanding the broader social and psychological implications of reproductive policies are vital to ensuring the mental health and well-being of adolescents. By prioritizing evidence-based decision-making and collaboration between researchers, policymakers, and healthcare professionals, society can work towards promoting the overall health and welfare of all individuals, particularly our most vulnerable populations.

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