

Introduction

Motivation:

- Relevant to this present day
- Abortion (pro-life, pro-choice) very controversial
- Since abortion centers around children and newborns, I thought the first child a mother has is particularly special and has some kind of impact on their opinion on abortion. I thought I would find evidence of this impact.

Data collection:

- Obtained data from the **General Social Survey (GSS) 2018** dataset
- Truly “random” sample: GSS 2018 already created to be random
 - Representative of US population as much as possible
- Number of Sample Records: 490 samples

Method

Question:

Do the opinions of whether or not mothers believe in abortion affect the age they have their first child?

Method:

Analysis Method: Independent Samples T-test assuming unequal variances

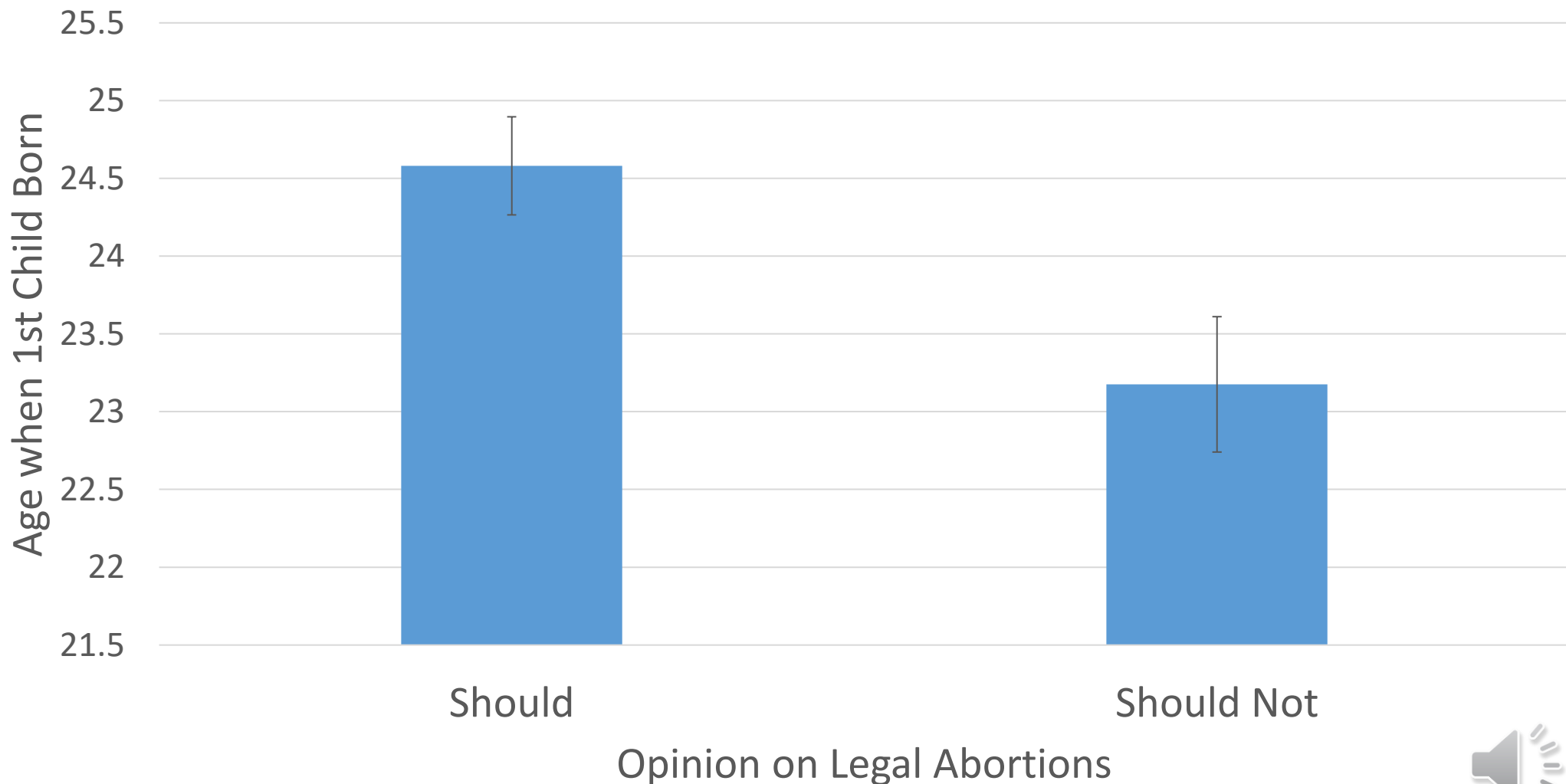
- Compares means of 2 entirely separate groups
 - 2 separate groups: mothers who do believe in legal abortion & mothers who don't believe in legal abortion
 - Means: Age those mothers had 1st child
- Determine if ages mothers had 1st child differ significantly based on if they do or don't believe in legal abortions

Assumptions/Conditions: Met

- Random samples & Independent Observations: Could assume samples were randomly selected (GSS 2018 data random) and that they're independent observations
- Large sample (25+): 490 samples per group
- Independent samples: 2 samples independent of each other, can only be classified as believing in or not believing in legal abortions

Bar Chart of Means

Do the opinions of whether or not mothers believe in abortion affect the age they have their first child?



The Effect of Believing in Legal Abortions and Having a First Child

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Results

	<i>Women Should be able to Have Legal Abortions</i>	<i>Women Should Not be able to Have Legal Abortions</i>
Mean	24.58	23.18
Variance	33.46	29.06
Observations	336	154
Hypothesized Mean Difference	0	
df (degrees of freedom)	317	
t-Statistic	2.62	
P-value(T<=t) two-tail	0.0093	
t Critical two-tail	1.97	
Standard deviation	5.78	5.39
Standard error	0.32	0.43
Minimum	14	14
Maximum	45	42

Conclusion

Null hypothesis (H_0): $\mu_{should} - \mu_{should\ not} = 0$

Alternate hypothesis (H_a): $\mu_{should} - \mu_{should\ not} \neq 0$

After completing an independent samples t-test, we reject the null hypothesis. We were able to find evidence that mothers who do believe in legal abortions ($M = 24.58$) significantly differ in the age they had their first child compared to mothers who don't believe in legal abortions ($M = 23.18$). Based on our evidence, we can say that mothers who do believe in legal abortions are older in age [when their first child was born] than mothers who don't believe in legal abortions, on average. We conclude this because our t-statistic ($t_{317} = 2.62$) was more extreme than our t-critical ($t_c = 1.97$).

In examining the bar chart of means, we see there is a difference between the ages mothers (who do and do not believe in legal abortions) had their first child, as the error bars do not overlap.



Implications

What are the potential consequences of presenting the data?

Who could benefit from the results of this study?

- **Policy Makers: Make laws/policies about abortion**
 - Recommendations: keep in mind how people's opinions on abortion can differ based on when they have/had their first child
 - Project focuses on group of people abortion usually affects the most (mothers: since it's first child, this could include unplanned pregnancies)
 - Project results significant: Important for policy makers to consider these results (opinions) → know how the same groups of people (abortion happens to target the most) in the future would be/could be affected by their decisions
- **Women who have children or Future Mothers wanting a child**
 - Mothers who've had their first child *intentionally or unintentionally* and women wanting a child can compare themselves to this study to help determine if it's normal or usual to have a first child at that age
 - They can compare themselves to other women who have the same beliefs as them (believe/don't believe in legal abortions), Study those statistics
 - → this can benefit those women in making a decision regarding children



Limitations

Are there any issues with the methods of the study? Yes

Limitations with Analysis:

- Limited to ONLY women who've had 1st child already AND have a yes/no opinion on legal abortion

Failing assumptions:

- Project doesn't take into account abortion opinions that are "It Depends" and "Don't Know"

Confounding variable(s) NOT controlled for:

- If the mother's/respondent's first childbirth was unplanned or not
 - Since this project mentions abortion, the acknowledgement of unplanned births could be important



Future Work

What alternative analyses or clarifications would need to be presented to ethically transmit this data?

Cautions & Clarifications for unscientific audiences:

- Project results includes ALL births (planned AND unplanned)
- It's not just mother's opinions on abortions that could affect age they had their 1st child (and vice-versa): other factors could be involved - religion, environment they grew up in, culture, etc.

Follow-Up Study:

- Redo the same study with changes
 - Include new variable: Ask the respondent if their first childbirth was unplanned or not (Yes & No groups)