



CONTRACEPTION USE IN INDONESIA

(in 1987)

ABOUT THE DATASET

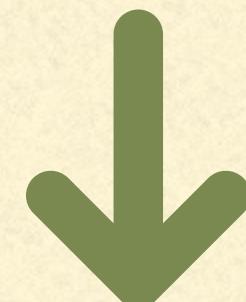
- **SAMPLE OF 1,473 WOMEN RESPONDENTS, WITH 10 ATTRIBUTES**
 - **TARGET = CONTRACEPTIVE METHOD**
EXPLORED AS BOTH A MULTICLASS AND BINARY.
FINAL MODEL EVALUATED ON BINARY
 - SOURCED FROM THE 1987 NATIONAL INDONESIA CONTRACEPTIVE PREVALENCE SURVEY (NICPS)
WHICH WAS DRAWN FROM THE ANNUAL NATIONAL SOCIOECONOMIC SURVEY (SUSENAS)
CONDUCTED IN JANUARY AND FEBRUARY 1987
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MOTIVATION



- Contraception access

- Standard of Living



- Infant mortality rate

- Maternal mortality rate

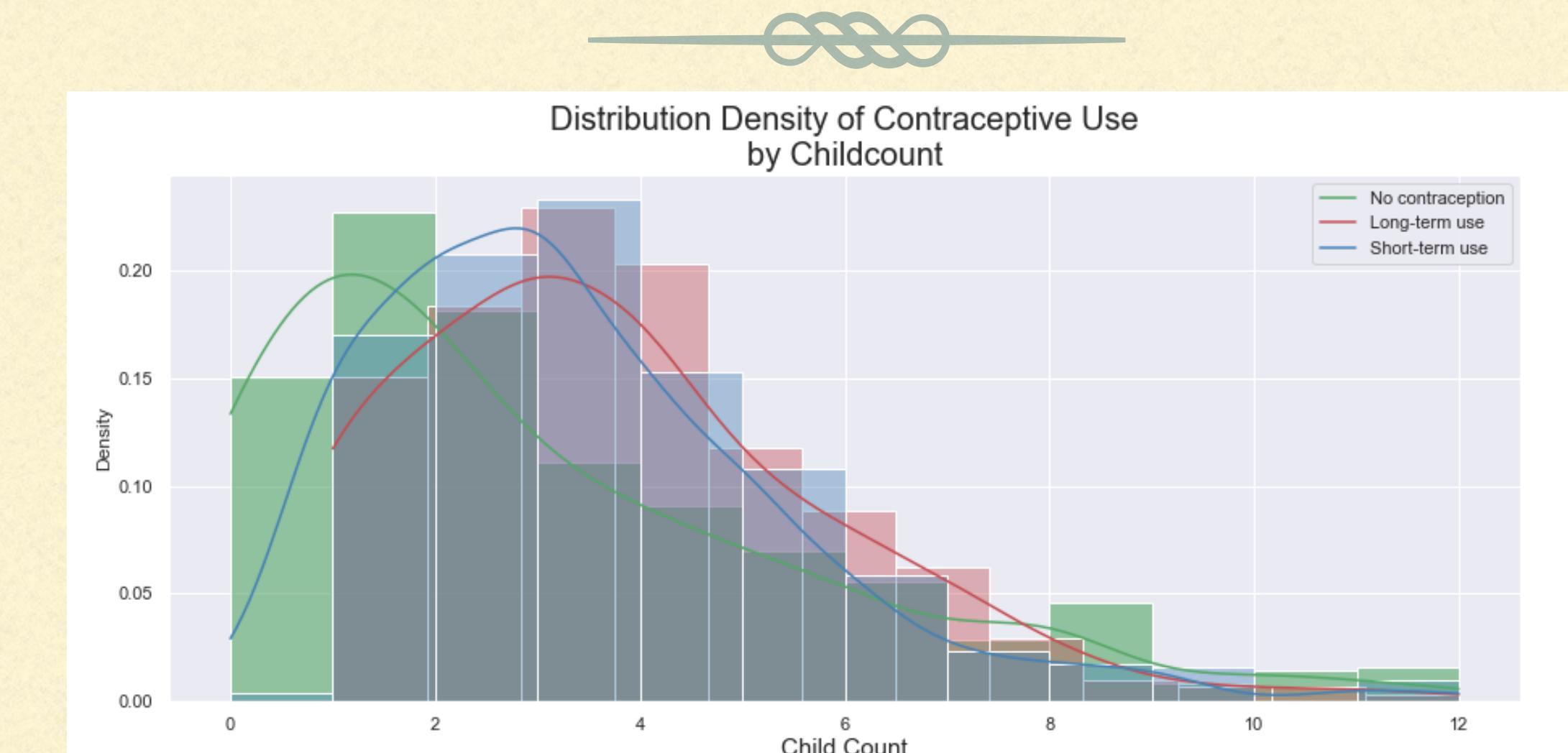
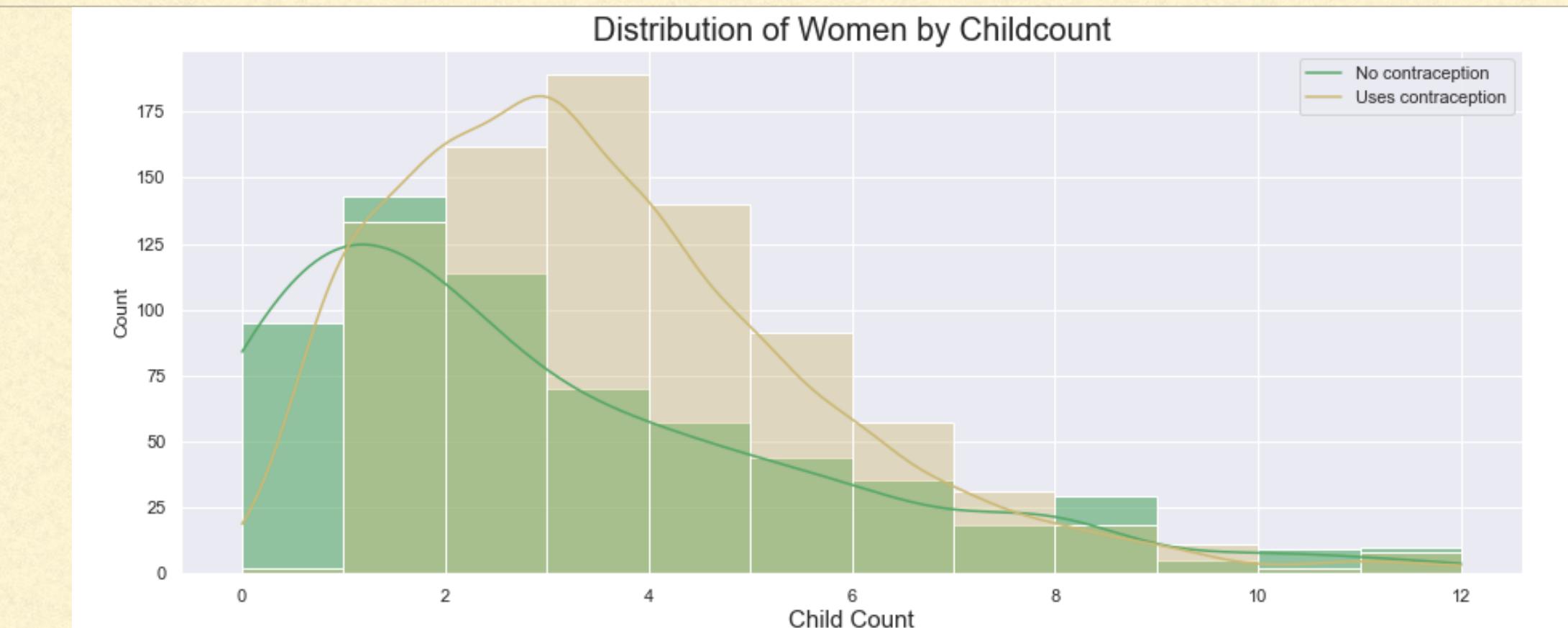


- More manageable public health policy

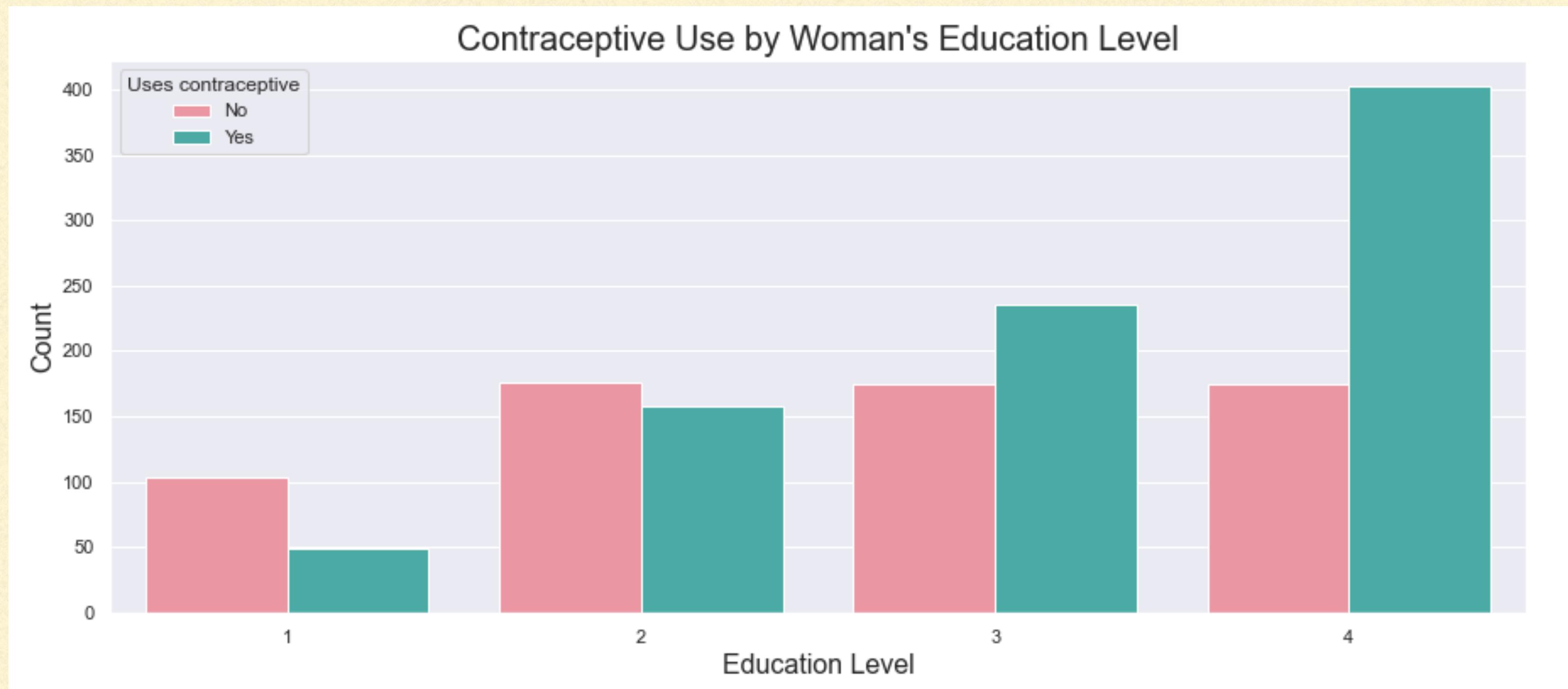
- Autonomy in individual's healthcare

NUMBER OF CHILDREN

- The number of children has an effect on birth control use
- Of the 97 women with *no* children, **only 2** reported using any contraceptive method
- After having two children, # of women who use no contraception declines



EDUCATION



1 = None

2 = Some
Primary School

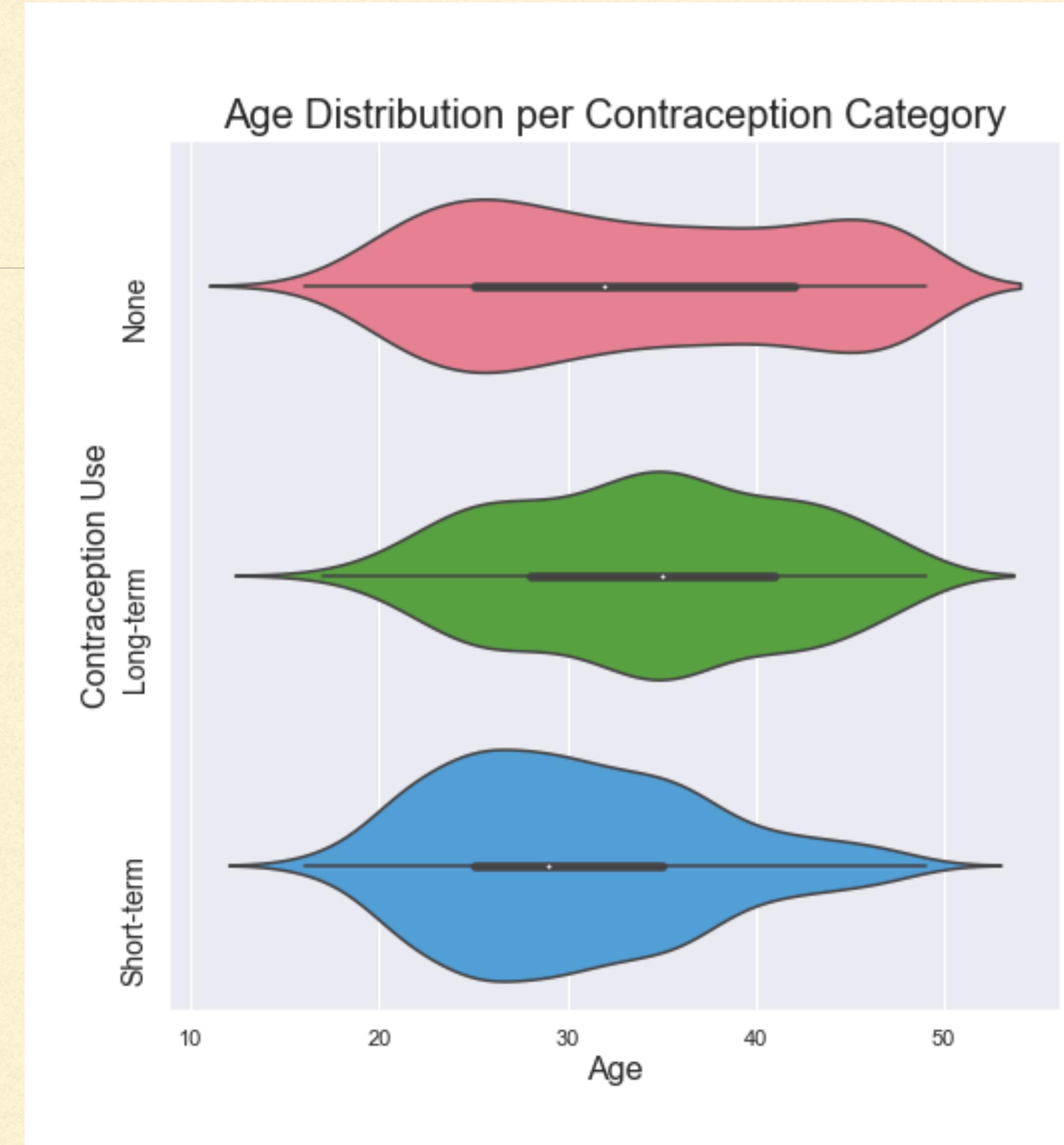
3 = Graduated
Primary School

4 = Secondary or
Higher Education

↑ ■ Education,
↑ ■ Contraceptive use

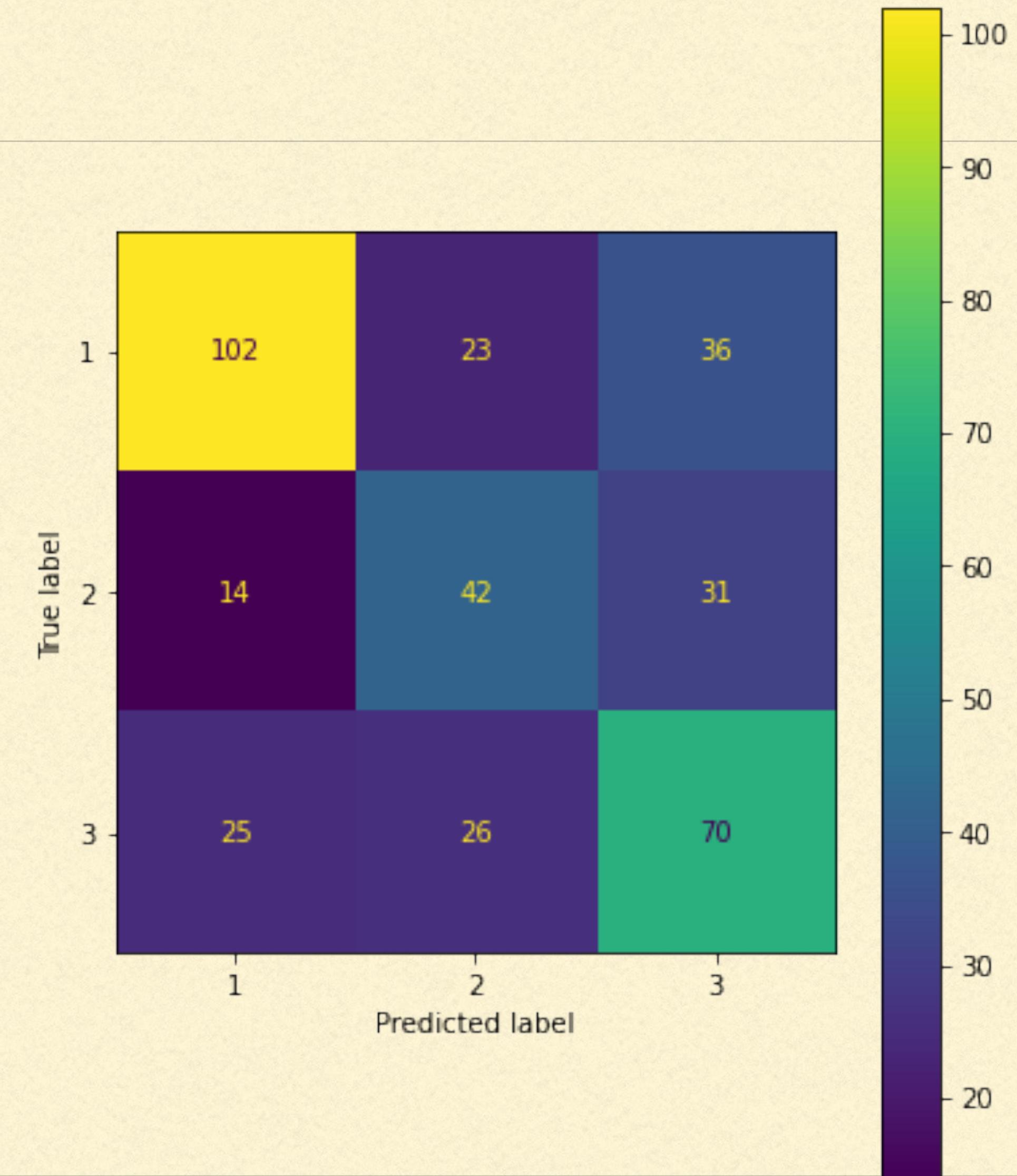
AGE

- No contraception:
bimodal, aggregating around **25** and **46**.
- Long-term contraceptive methods:
centers around **35**.
- Short-term contraceptive users:
right-skewed,
sharp increase to the mode at age **26**,
steady, tapered decline with age.



MODELING

- Best model XGBoost predicted values for Contraption Use in 2017:
- Average recall: .64
- F1 score: .65
- AUC score: .69



CONCLUSION

- After running model feature selection, it appears that age and number of children are a strong indicator for a woman's use of contraception
- The model also suggests that a woman's education is a strong indicator of the likelihood for her to select a long-term contraceptive method
- It would be beneficial to direct public health initiative around these factors

FURTHER ACTION

- Optimize our model for recall
- Continue to clean, implement features from, and predict on data from subsequent years
- Evaluate against populations of other countries

THANKYOU



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ATTRIBUTION

- The dataset referenced in this presentation is a subset from the 1987 National Indonesia Contraceptive Prevalence Survey

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Date: June 7, 1997

Repository: <https://archive.ics.uci.edu/ml/datasets/Contraceptive+Method+Choice>

- Title card photo by Ruben Hutabarat on Unsplash
Penglipuran Village, Bali, Indonesia
<https://unsplash.com/photos/JsrcsvyUf88>
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