

# Student-Teacher Ratio's Impact on School Shooting Outcomes

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## Introduction

- The number of school shootings has grown exponentially since Columbine in 1999.  
(Riedman 2023; Livingston et al. 2019; Gammell et al. 2022)
- Research has found that school size does not impact total victims in shooting events while number of shooters, type of firearm, and student enrollment being majority white do impact total victims.  
(Gottfredson and DiPietro 2011; Muschert 2007; Livingston et al. 2019)
- Lower student-teacher ratios (STR) lead to lower rates of other forms of juvenile delinquency in K-12 schools like peer harassment, classroom disruption, and future incarceration.  
(O'Neill and Vogel 2020; Arum 2008; Gottfredson and DiPietro 2011)

## Objectives

- Determine if student-teacher ratio has an impact on victims or deaths in active shooter events and, if so, the direction of the impact.
- Hypothesis: Higher student-teacher ratios are related to an increase in the total number of victims and deaths.

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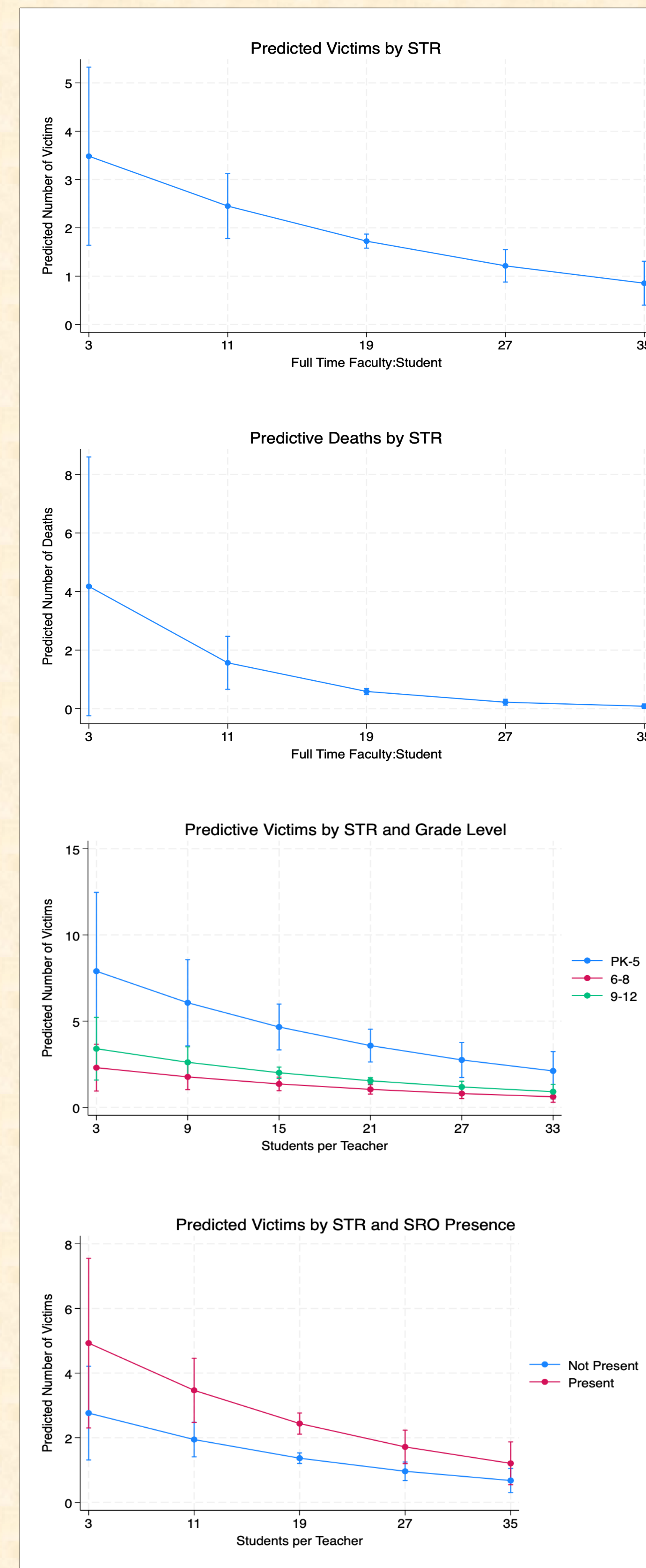
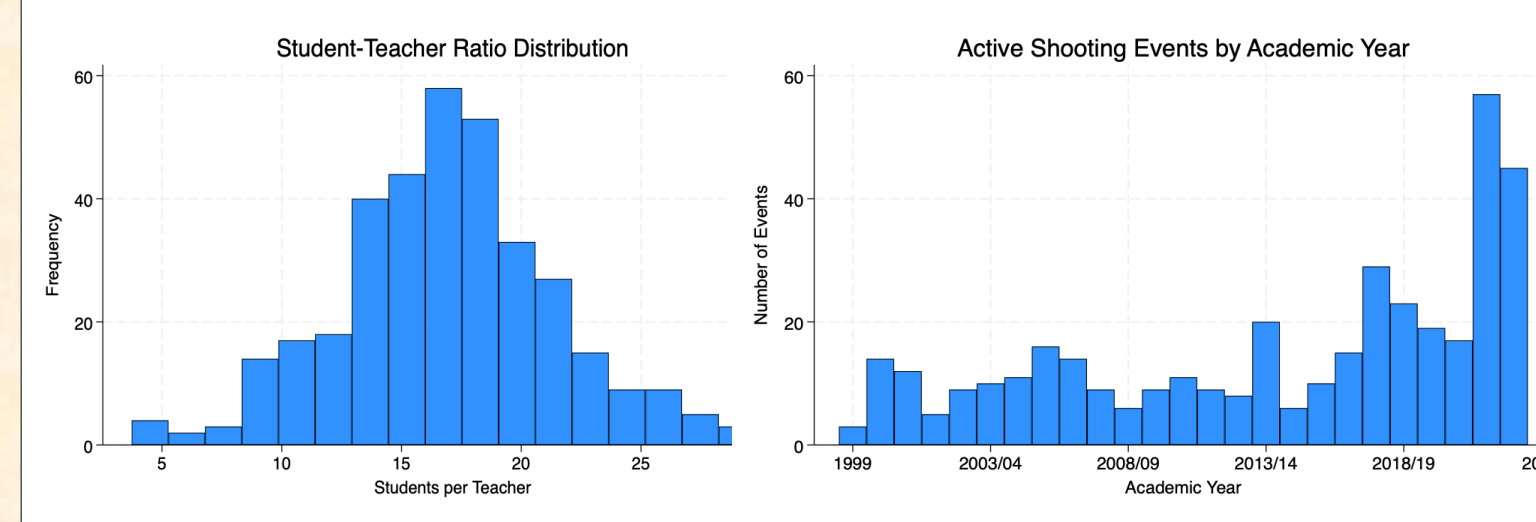
## Methods

- Dataset: Washington Post School Shooting Data
  - Cases in which students were at risk: Immediately before, during, or immediately after school.
  - $n = 355$ ; mean = 17 sd = 4.6
- Poisson Regression
  - IV: Student-Teacher Ratio
  - Controls: Enrollment, Staffing, SRO Presence, White Majority Enrollment, Free and Reduced-Price Lunch Majority, Grade Level, Urbanicity Status
  - DV: Total Number of Victims, Number of Victims Killed

## Results

Findings indicate that as the student-teacher ratio increases, the predicted number of victims and deaths decreases.

- When accounting for school resource officers (SRO), their presence increased the total number of victims.
- Elementary schools are more likely to see more victims followed by middle schools and finally high schools see the least number of victims.



## Conclusions

- While student-teacher ratios increase delinquency increases by active shooting event victims decrease, indicating research should investigate on what the ideal ratio is to curb delinquency and limit number of victims during a shooting event.
- Research indicates a potential link between the grade level of shooters and predicted victims that shows that while elementary schools have more victims their shooters are often older in age.
- Policy initiatives should look at the status of current SRO policy and reevaluate its effectiveness in all areas.

## Next Steps

- Data doesn't include cases in with students outside the perpetrator aren't in active danger including suicides and after school hours events.
- Future research should investigate if enrollment ratios in terms of race, gender, and socioeconomic status have an impact on outcome.

## References

Scan for a full list of references used for this project.

