

4-15-2019

# The Association Between Sex Ratio and Domestic Violence Against Women in New York State

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# THE ASSOCIATION BETWEEN SEX RATIO AND DOMESTIC VIOLENCE AGAINST WOMEN IN NEW YORK STATE



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## INTRODUCTION

Domestic violence against women is a serious public health issue. Every year approximately ten million people face violence at the hands of a current or former intimate partner, with 85% of incidences being perpetrated against women<sup>1,2</sup>. 72% of all murder-suicides involve an intimate partner, and 94% of the time, the victim is a woman<sup>2</sup>. This study examined the association between sex ratio (the number of men to the number of women in a county) and rates of domestic violence committed against women in New York State.

1. Crime Data Brief. 2003. "Intimate Partner Violence, 1993-2001". Bureau of Justice Statistics.  
 2. NCADV. 2015. "Domestic violence national statistics".

## THEORETICAL FRAMEWORK

Two conflicting theoretical predictions have been proposed: 1) when there are more males in a region, heterosexual males may use intimate partner violence as a means to control their mate or 2) when there are more males in a region, heterosexual females have greater bargaining power and males engage in behaviors that are more desirable to women.

## METHODS

This study analyzed the rate of domestic violence incidents reported per 10,000 men in a given county compared to the sex ratio. The types of incidents analyzed were aggravated assault, simple assault, sex offenses, and the violation of a protection order.

My controlling variables were median household income, percent of people who obtained a high school degree or less (ages 25+), unemployment rate (ages 20-64), and poverty rate (ages 18-64). I conducted a backwards stepwise regression which included all my control variables and sex ratio.

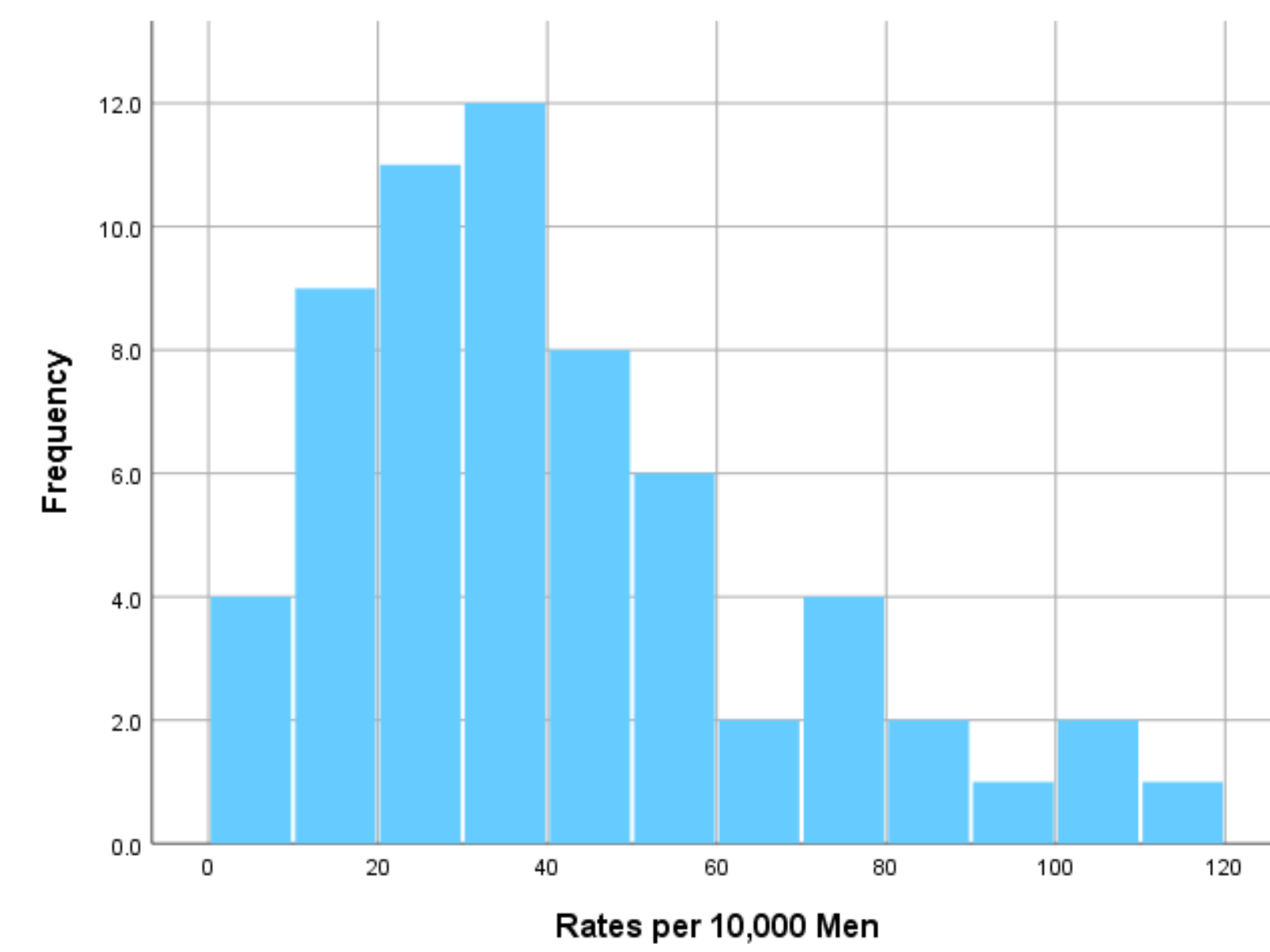
Data was collected from the New York State Division of Criminal Justice Services and included female victims of intimate partner violence reported in 2017 by county. Population data was taken from the CDC Wonder Compressed Mortality Database. The controlling variables data was obtained from the United States Census Bureau American FactFinder Database.

## PREVIOUS RESEARCH

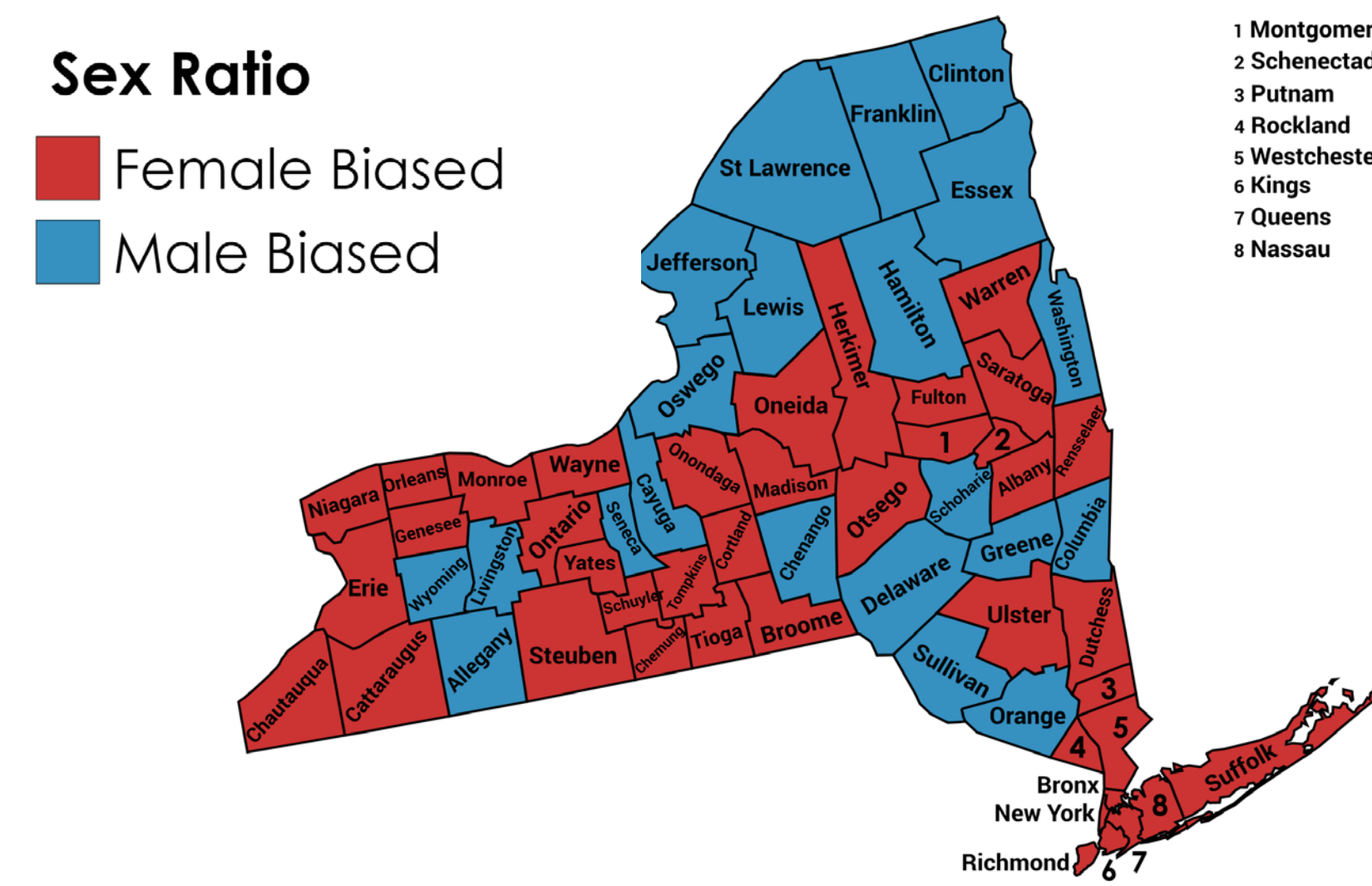
*The sex ratio and male-on-female intimate partner violence*  
 D'Alessio and Stolzenberg 2010  
 Supports Prediction 1  
 NIBRS for 134 cities in 24 states during 2005

## Department of Anthropology

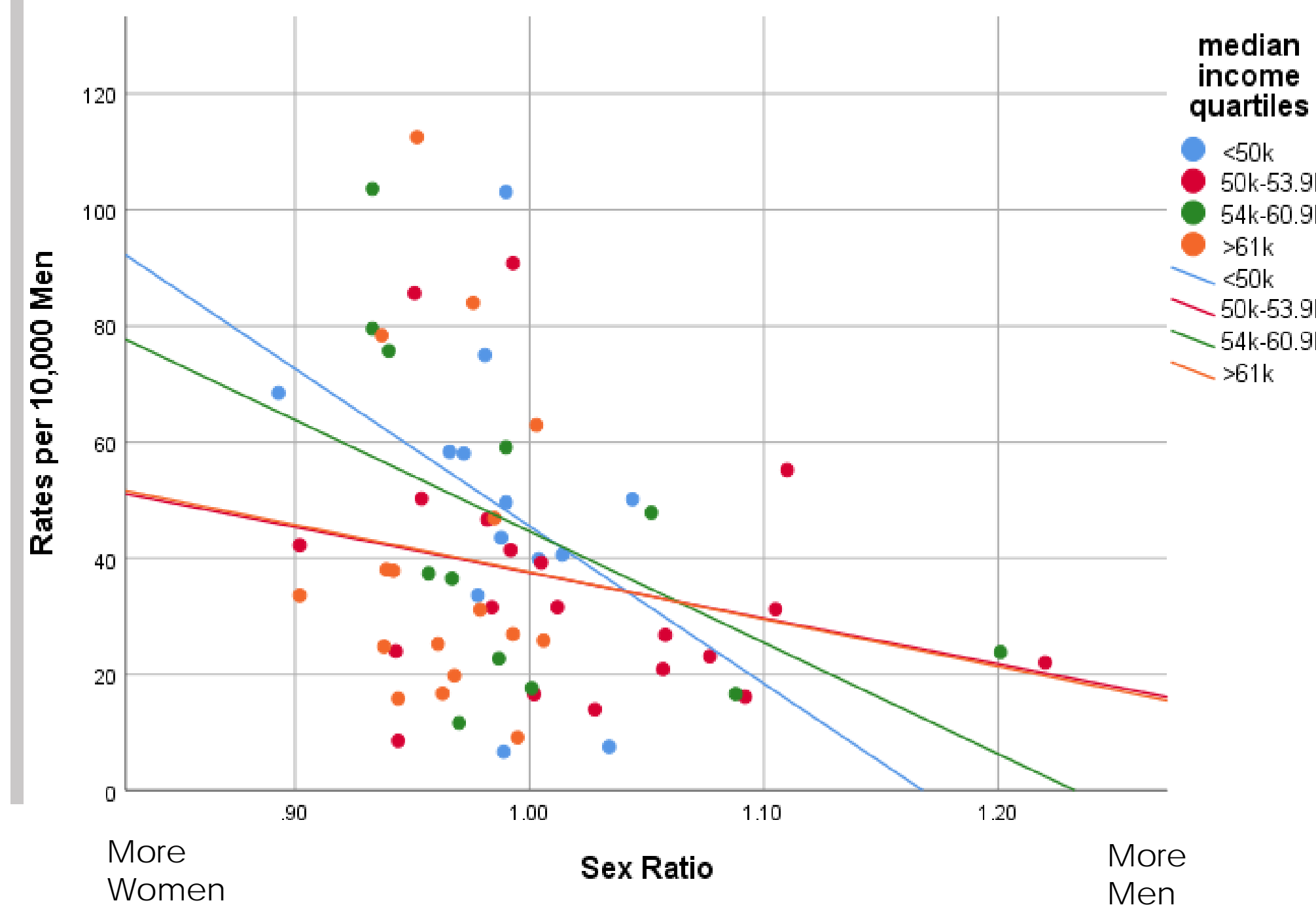
### DOMESTIC VIOLENCE RATES



### COUNTIES BY SEX RATIO



### DATA



## RESULTS

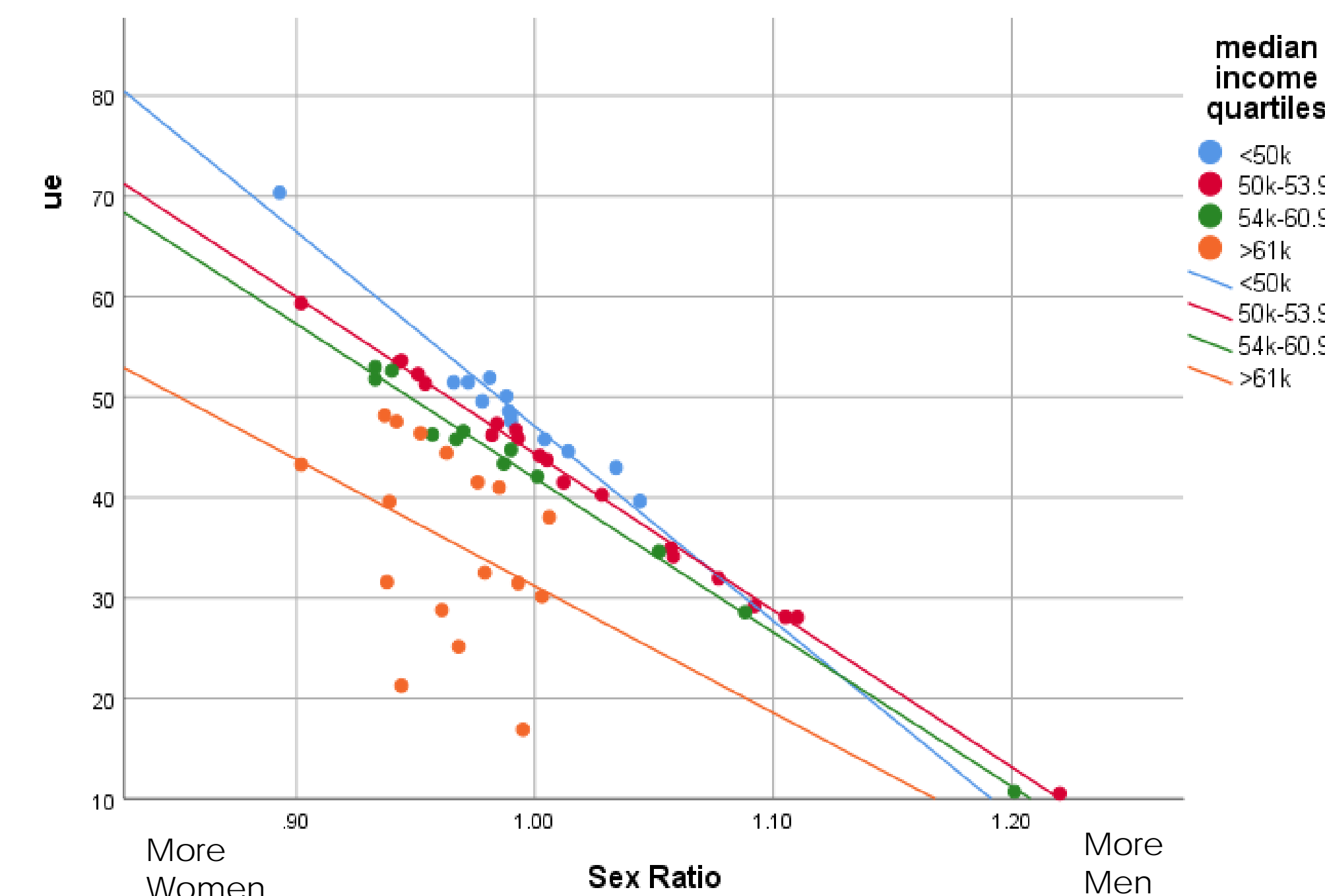
	Unstandardized		Standardized	
	B	Standard Error	B	Significance
Constant	232.578	54.839		<0.001
Sex Ratio	-157.310	50.467	-0.376	0.003
Median Household Income (thousands)	-0.594	0.226	-0.318	0.011

Results show that as sex ratio increases (there is a greater number of men than women in a county), the rate of domestic violence against women declines.

Results also show that as median household income increases, domestic violence decreases.

$$\text{Rate of domestic violence(per 10,000 men)} = 232.578 - 157.310 * \text{sex\_ratio} - 0.594 * \text{median\_income(thousands)}$$

## PREDICTED MODEL



## DISCUSSION

There are some limitations to researching sex ratio. First, the unit of analysis is at the population level, even though domestic violence occurs at the individual level. Second, there is not an even distribution of different sex ratios. New York State is heavily female-biased, with two thirds of the counties being female-biased. Thirdly, there is a self-selection bias of where to live. Evidence has shown that females are more likely to migrate to urban centers when living in economically depressed areas.

Limitations to studying domestic violence are that not all instances of violence are reported. I only analyzed incidents reported to law enforcement agencies.

## FUTURE RESEARCH

I have collected data from the state of California in 2017 for reported domestic violence incidents by county. I will analyze the data in the same manner and compare these findings to New York State. I plan to find more data from other states to have a wider base of analysis.

## REFERENCES

D'Alessio, Stewart J., and Lisa Stolzenberg. 2010. "The Sex Ratio and Male-on-Female Intimate Partner Violence." *Journal of Criminal Justice* 38 (4): 555-61.

Pollet, Thomas V., Andrea H. Stoevenbelt, and Toon Kuppens. 2017. "The Potential Pitfalls of Studying Adult Sex Ratios at Aggregate Levels in Humans." *Philosophical Transactions of the Royal Society B Biological Sciences* 372.

Schacht, Ryan, Karen L. Kramer, Tamás Székely, and Peter M. Kappeler. 2017. "Adult Sex Ratios and Reproductive Strategies: A Critical Re-Examination of Sex Differences in Human and Animal Societies." *Philosophical Transactions of the Royal Society B Biological Sciences* 372.