



# JUSTFAIR NORTH CAROLINA

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Duke University Masters in Interdisciplinary Science / Statistics

# **Judge who let off 'spoiled' rich teen who killed four in DUI previously put boy aged fourteen in prison for TEN YEARS**

- Judge Jean Boyd is facing an avalanche of criticism after sentencing Ethan Couch to 10 years probation for killing four people in a car crash
- In the past she has handed out tougher sentence and last year an African-American teenager was jailed for 10 years for punching a man who died
- A petition has been launched to have Boyd removed from her position

**STRAIGHT FROM THE HEADLINES** |



*Institute for the Quantitative Study  
of Inclusion, Diversity, and Equity*

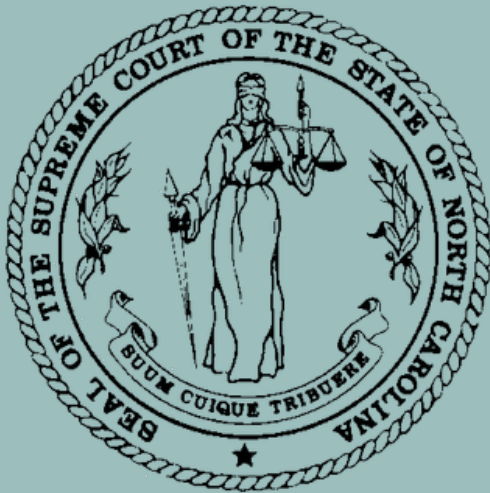


1. HOW CAN RACIAL BIAS MANIFEST  
IN CRIMINAL SENTENCING?

2. WHAT DIFFERENCES EXISTS BETWEEN  
COURT HOUSES IN DIFFERENT DISTRICTS?

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ACIS Data



Criminal sentences  
from 2017-2021

MARRIED WITH

Census Data

4796138925621434972846861  
288281418734 312568331437  
315478241883 587121934588  
828368825388 768672793121  
347914272838 16238228836  
1538421148781 128848718389  
89148723 231 74 748868485  
838289855 788353227  
218572884 4447878853  
32521477 958 588888  
841887887 641197818  
838188187 83 1884884  
182842488121 128848718389  
884721221481 128121481887  
881878148842 84288818718  
72818838458 417848172842  
887428188278 478318431823  
58872481842881478254288

**IPUMS**  
**NHGIS**

County Demographics

# HOW CAN WE QUANTIFY RACIAL/GENDER BIAS?



# HOW CAN WE QUANTIFY RACIAL/GENDER BIAS?



**Police**

Who is arrested?



**Prosecutor**

Whose charges are  
dropped?



**Judge**

Who gets sentenced to  
longer times in prison?

# SENTENCING

## Sentencing Grid

Prior record level  
6 – 9 pts

Offense  
Class  
D

84 – 105

67 – 84

51 - 67

\*\*\* Effective for Offenses Committed on or after 10/1/13 \*\*\*

## FELONY PUNISHMENT CHART PRIOR RECORD LEVEL

OFFENSE CLASS		I 0-1 Pt	II 2-5 Pts	III 6-9 Pts	IV 10-13 Pts	V 14-17 Pts	VI 18+ Pts	
	A	Death or Life Without Parole Defendant Under 18 at Time of Offense: Life With or Without Parole						
	B1	A	A	A	A	A <i>Life Without Parole</i>	A <i>Life Without Parole</i>	DISPOSITION  <i>Aggravated Range</i>
		240 - 300	276 - 345	317 - 397	365 - 456			
		192 - 240	221 - 276	254 - 317	292 - 365	336 - 420	386 - 483	PRESUMPTIVE RANGE
		144 - 192	166 - 221	190 - 254	219 - 292	252 - 336	290 - 386	Mitigated Range
	B2	A	A	A	A	A	A	
		157 - 196	180 - 225	207 - 258	238 - 297	273 - 342	314 - 393	
		125 - 157	144 - 180	165 - 207	190 - 238	219 - 273	251 - 314	
		94 - 125	108 - 144	124 - 165	143 - 190	164 - 219	189 - 251	
	C	A	A	A	A	A	A	
		73 - 92	83 - 104	96 - 120	110 - 138	127 - 159	146 - 182	
		58 - 73	67 - 83	77 - 96	88 - 110	101 - 127	117 - 146	
		44 - 58	50 - 67	58 - 77	66 - 88	76 - 101	87 - 117	
	D	A	A	A	A	A	A	
		64 - 80	73 - 92	84 - 105	97 - 121	111 - 139	128 - 160	
		51 - 64	59 - 73	67 - 84	78 - 97	89 - 111	103 - 128	
		38 - 51	44 - 59	51 - 67	58 - 78	67 - 89	77 - 103	
	E	I/A	I/A	A	A	A	A	
		25 - 31	29 - 36	33 - 41	38 - 48	44 - 55	50 - 63	
20 - 25		23 - 29	26 - 33	30 - 38	35 - 44	40 - 50		
	15 - 20	17 - 23	20 - 26	23 - 30	26 - 35	30 - 40		
F	I/A	I/A	I/A	A	A	A		
	16 - 20	19 - 23	21 - 27	25 - 31	28 - 36	33 - 41		
	13 - 16	15 - 19	17 - 21	20 - 25	23 - 28	26 - 33		
	10 - 13	11 - 15	13 - 17	15 - 20	17 - 23	20 - 26		
G	I/A	I/A	I/A	I/A	A	A		
	13 - 16	14 - 18	17 - 21	19 - 24	22 - 27	25 - 31		
	10 - 13	12 - 14	13 - 17	15 - 19	17 - 22	20 - 25		
	8 - 10	9 - 12	10 - 13	11 - 15	13 - 17	15 - 20		
H	C/I/A	I/A	I/A	I/A	I/A	A		
	6 - 8	8 - 10	10 - 12	11 - 14	15 - 19	20 - 25		
	5 - 6	6 - 8	8 - 10	9 - 11	12 - 15	16 - 20		
	4 - 5	4 - 6	6 - 8	7 - 9	9 - 12	12 - 16		
I	C	C/I	I	I/A	I/A	I/A		
	6 - 8	6 - 8	6 - 8	8 - 10	9 - 11	10 - 12		
	4 - 6	4 - 6	5 - 6	6 - 8	7 - 9	8 - 10		
	3 - 4	3 - 4	4 - 5	4 - 6	5 - 7	6 - 8		

A – Active Punishment I – Intermediate Punishment C – Community Punishment  
Numbers shown are in months and represent the range of minimum sentences

Revised: 09-09-13

# SENTENCING

## Sentencing Grid

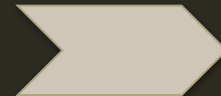
Offense Class D	Prior record level 6 – 9 pts
	84 – 105
	67 – 84
	51 - 67



# SENTENCING

## Sentencing Grid

Offense Class D	Prior record level 6 – 9 pts
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## Sentencing Ranges

Over Sentencing

Aggravated

Presumptive

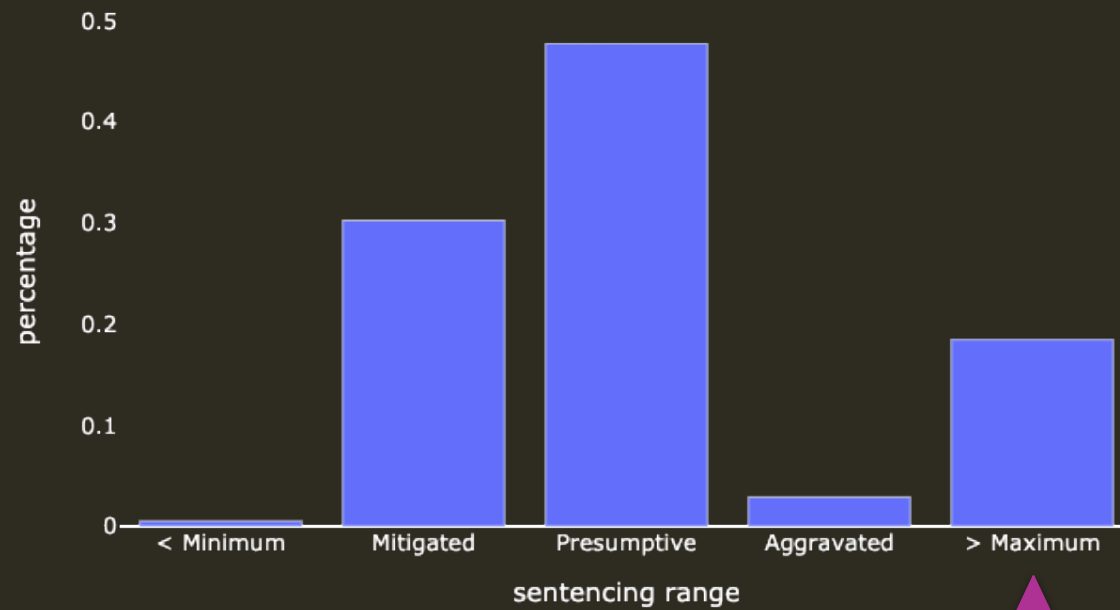
Mitigated

Under Sentencing

# SENTENCING RANGE

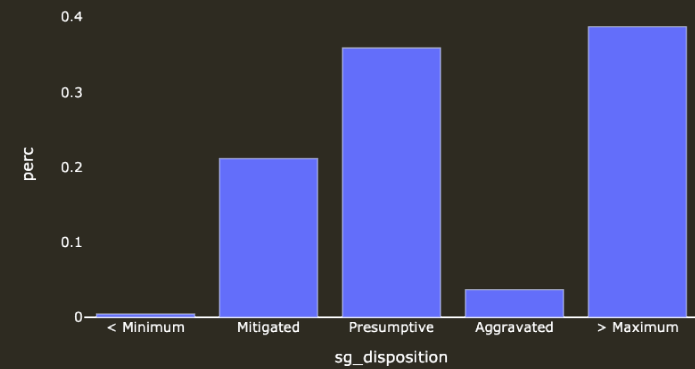
## Aggregated Level

Distribution of sentencing range

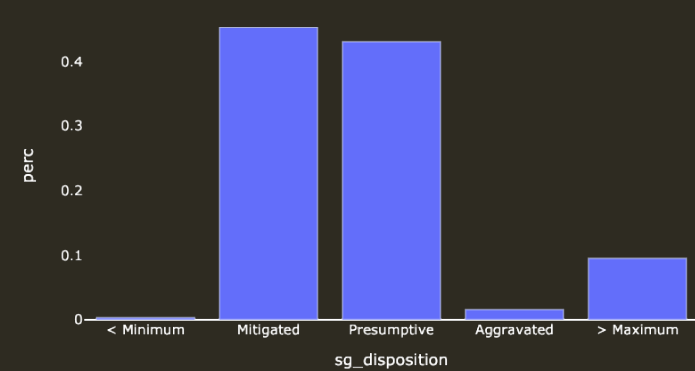


## County Level

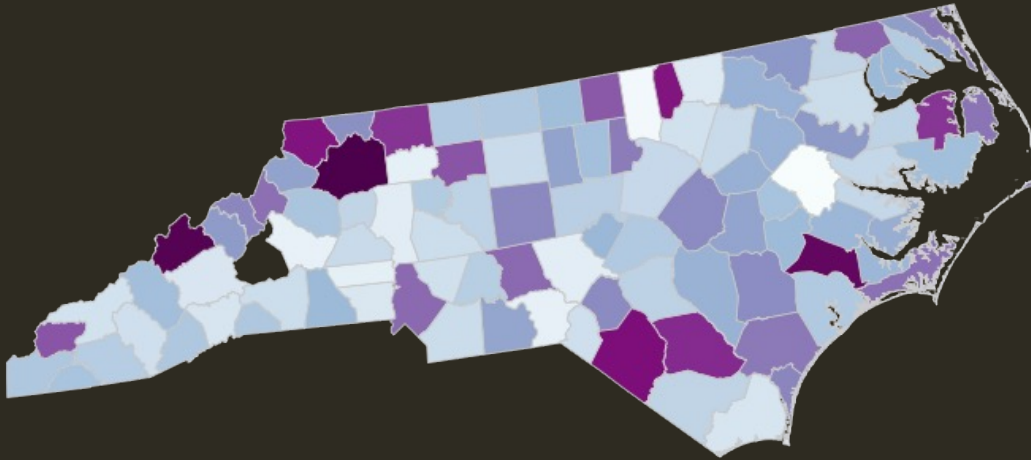
Wilkes County



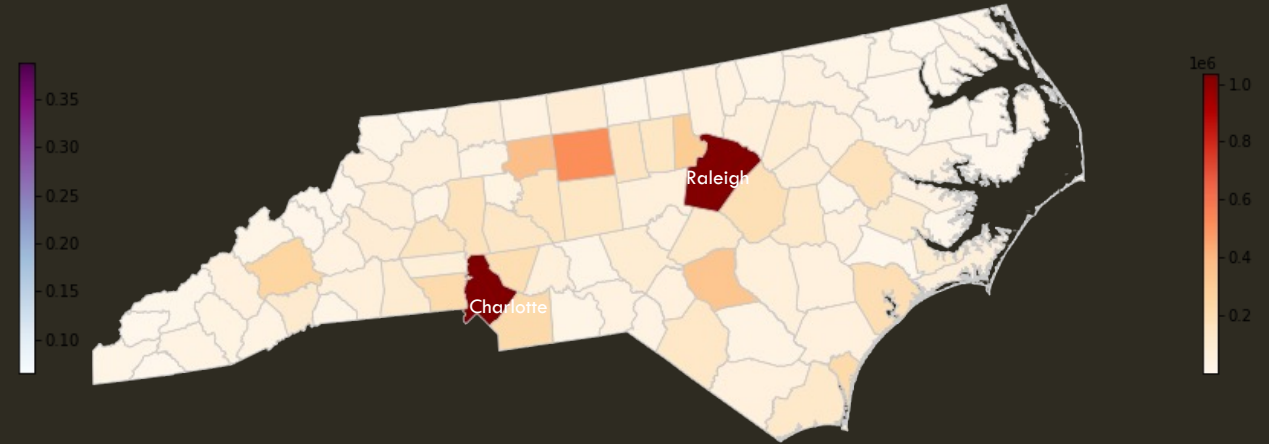
Richmond County



Percentage Heatmap of Over Sentencing



Population Heatmap of North Carolina



...OVER SENTENCED

Urban vs. Rural

# BREAK DOWN BY RACE...

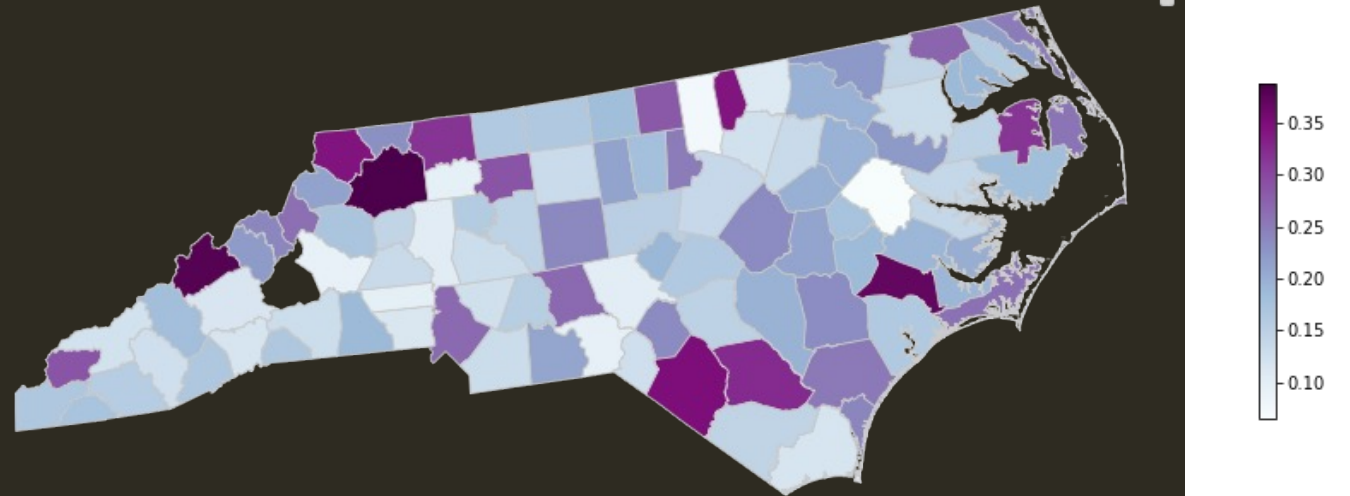
Percentage Difference

=

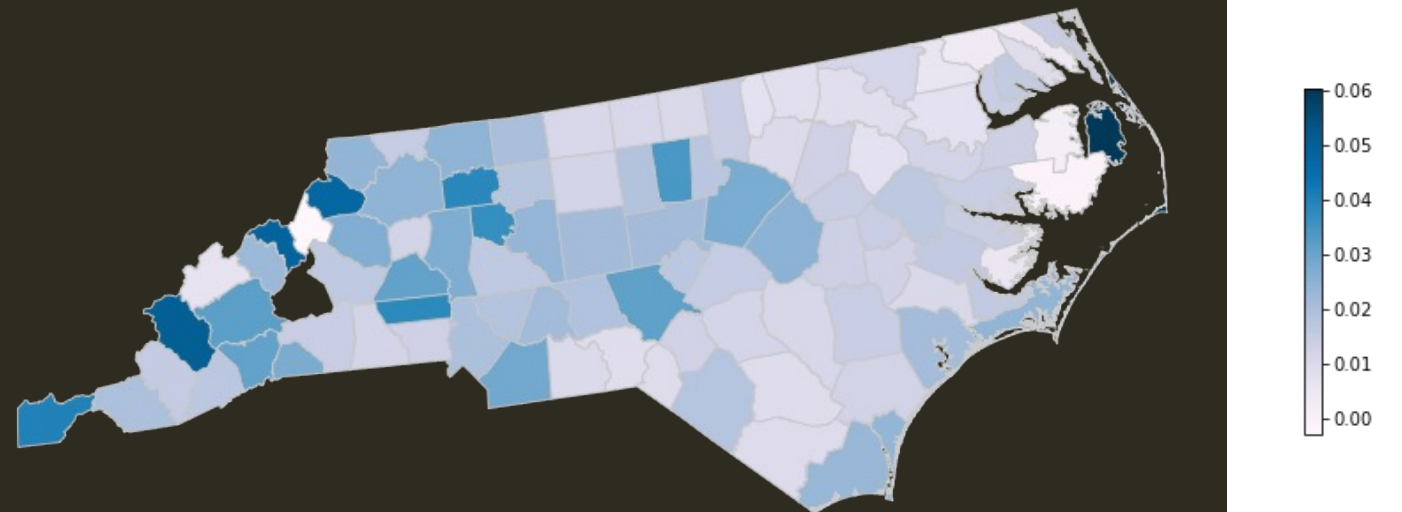
% of Black defendants - % of White  
defendants in over-sentencing range

(normalized by population distribution)

Percentage Heatmap of Over Sentencing



Percentage Difference between black & white in Over Sentencing



# HOW CAN WE QUANTIFY RACIAL/GENDER BIAS?



# PLEA BARGAIN EXAMPLE

$$\Delta \text{ Severity} = \sum \text{Convicted offenses rank} - \sum \text{Initial offense rank}$$

## Initial Charged Offenses



Offense	Class
SEX OFFENSE OF CHILD BY ADULT	F
SECOND DEGREE TRESPASS	A

*plea bargain*

## Convicted Offenses



Offense	Class
INDECENT LIBERTIES W/ CHILD	E

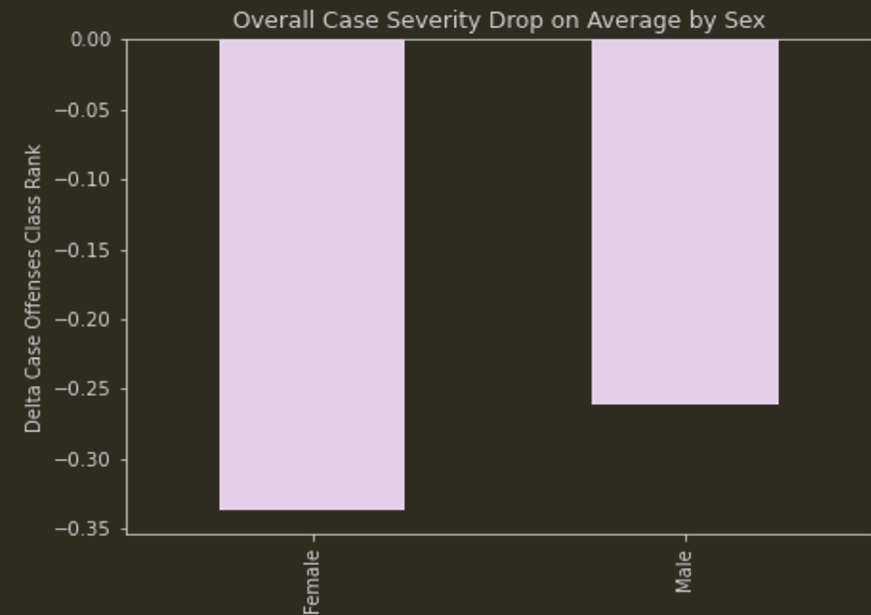
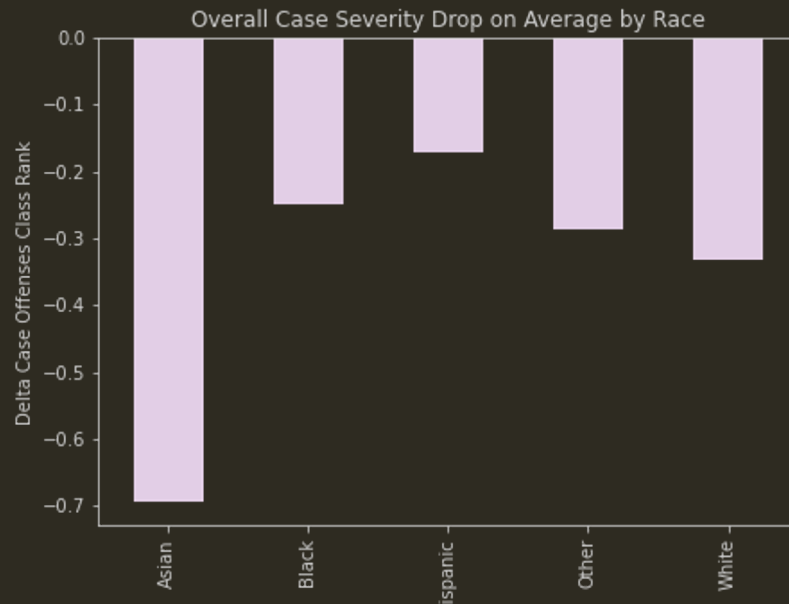


# PROSECUTION

The difference in severity of initial charges compared to convicted charges drops in different amounts, on average, for defendants of different demographics, with substantial variation by court district.

# PROSECUTION

## Aggregated (State) Level Summary Statistics

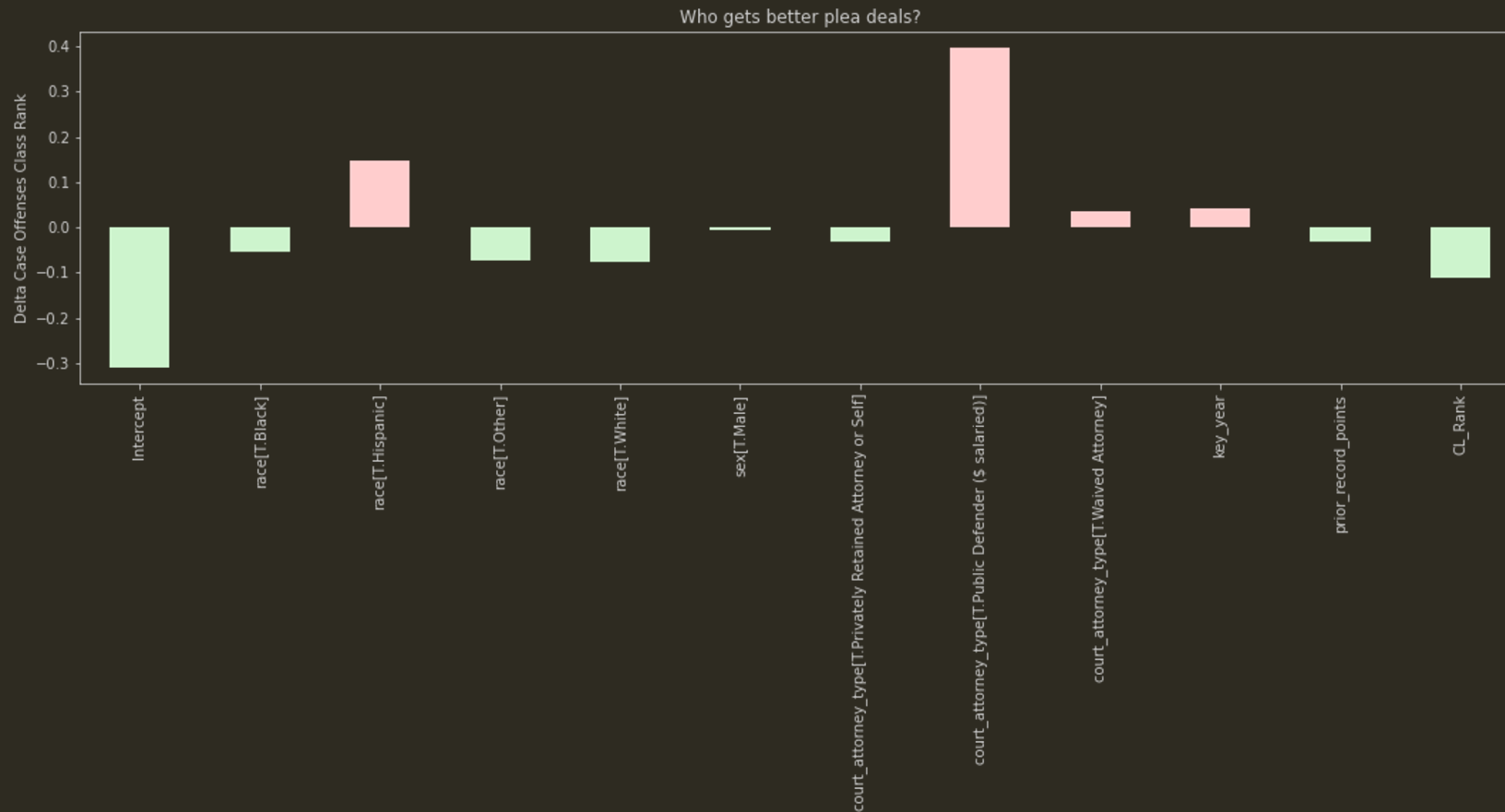


Asians seem to be getting the most lenient deals on average, followed by White and then Black defendants. On average, the aggregated class rank of cases against defendants that are women get a larger drop in severity.



# PROSECUTION

Case  $\Delta$  Severity  $\sim$  year + race + sex + prior record points + attorney type + initial case rank

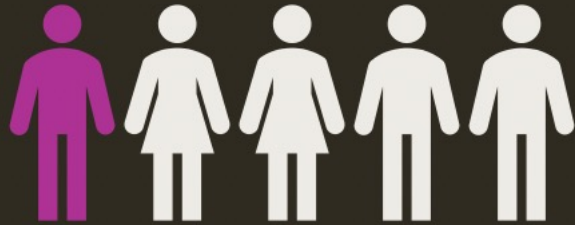


When controlling for other factors such as the type of defense attorney, bench, year, etc., we see that the average drop is 9% larger for White defendants compared to Black, and 50% for Hispanic compared to White. The largest negative contributor to plea deals is the attorney type.

# HOW CAN WE QUANTIFY RACIAL/GENDER BIAS?



# BLACK PEOPLE ARE OVER-REPRESENTED IN THE SYSTEM



20% of NC's population is Black



33% of defendants are Black

# BLACK PEOPLE ARE OVER-REPRESENTED IN THE SYSTEM



20% of NC's population is Black

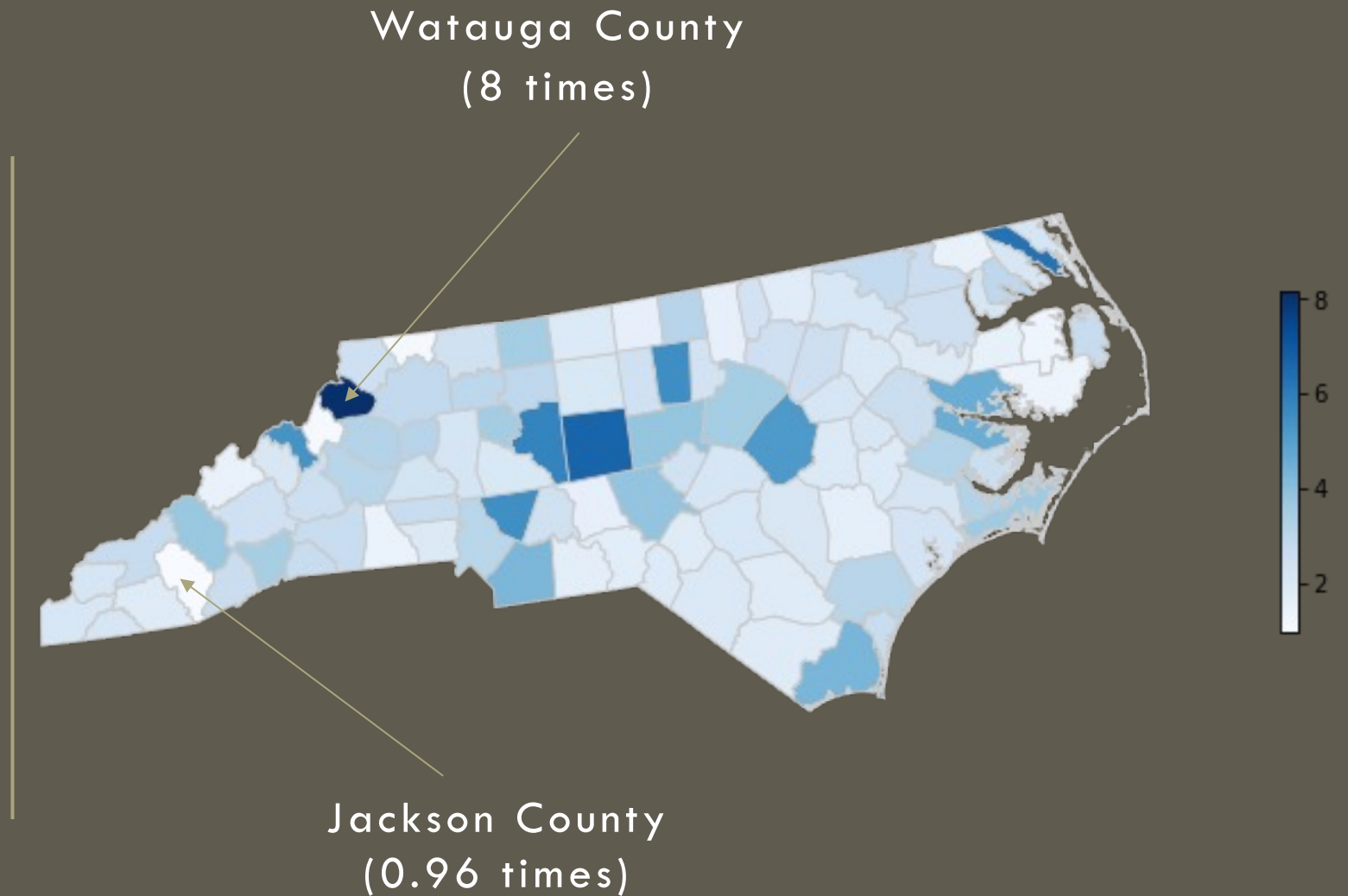


33% of defendants are Black

There is a 13 %-point difference, on average, indicating that Black people are over-represented in the arrested population of NC

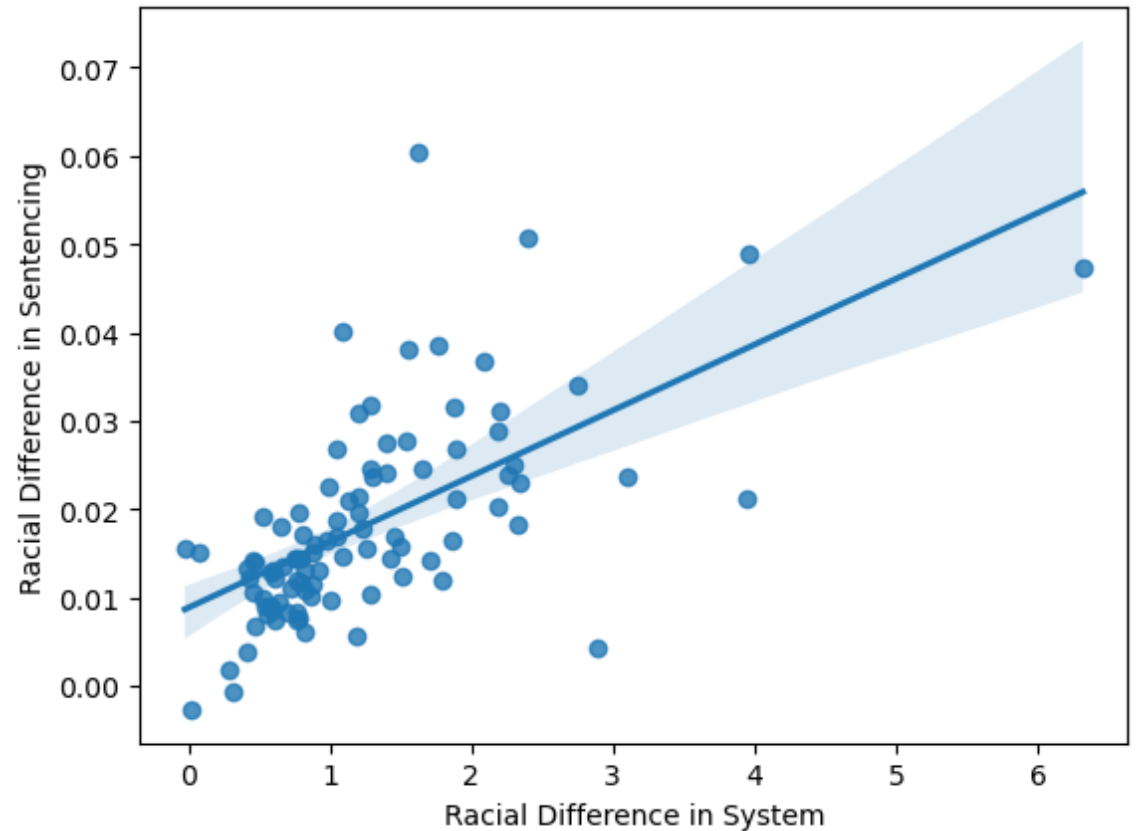
In NC, a Black person is

**2.7** times more likely to be arrested than a White person



ARE RACIALLY BIASED  
COUNTIES IN  
SENTENCING ALSO  
MORE RACIALLY  
BIASED IN ARRESTS?

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# CONCLUSIONS

Our findings support some claims that are seen often in this field's literature:

1. The Justice System at the district court level is more often over-punitive than not, with high variation across counties/benches.
2. The *plea-bargain* negotiations are hard to track and highly variable across benches. We observed a higher leniency for White defendants compared to Black and Hispanic as well as a higher drop for woman compared to men. There are many reasons why this is could be happening. Systemic racism remains a plausible reason.
3. Being in contact with the court system is intrinsically punitive (defendants pay court fees, miss work, are exposed to civil forfeiture, etc.), there is a clear racial disparity in the rate of being involved in a criminal case. This also varies by counties.
4. District courts where Black people are overrepresented are the same ones that are being more punitive in sentence length with Black people compared to White

THANK YOU !

Much gratitude to  
Nick Eubank, Will, and Jude