ASR Replication Preliminary - All Charges
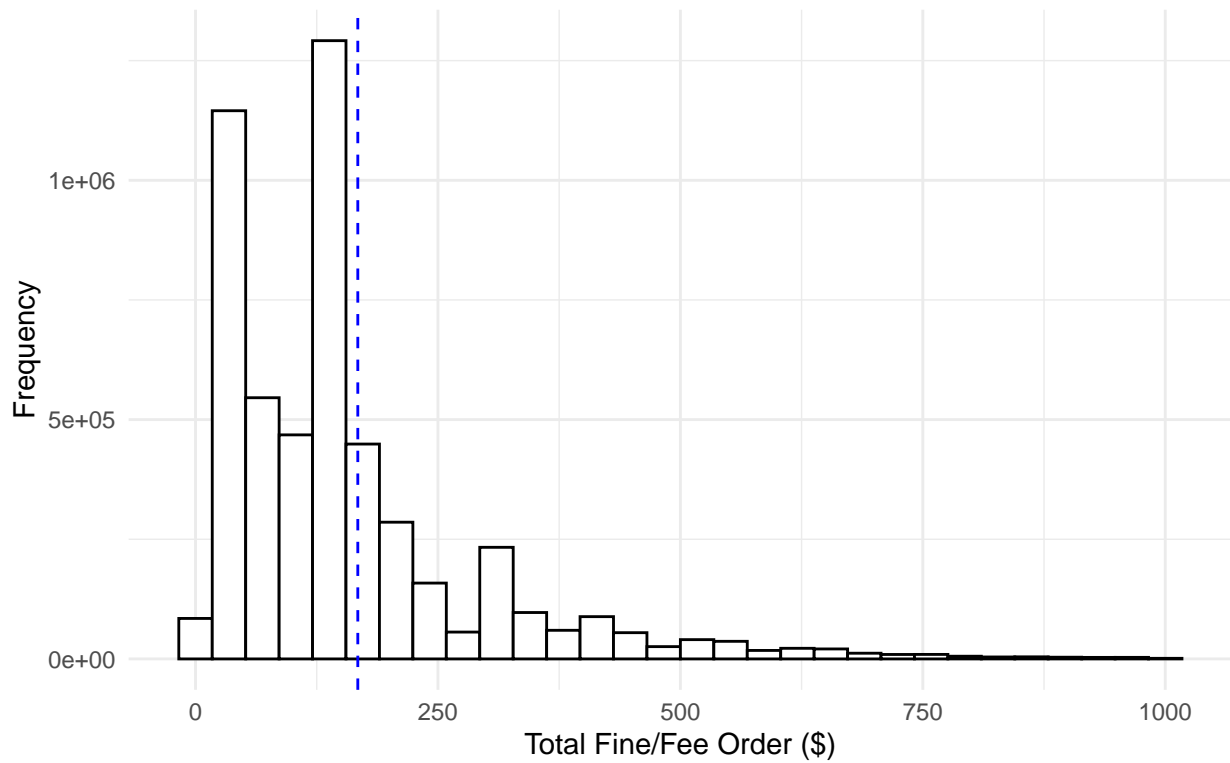
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This analysis represents a preliminary attempt to replicate and extend the Harris et. al. ASR paper. The Minnesota data is situated at the case level from 2010-2015. The full data series extends back to 2004, but VIBES data in the two most populous MN counties, Hennepin and Ramsey, are missing and inconsistent until 2010. Additionally, while data at the conviction level would be more comparable, we do not have data at the conviction level for much of the VIBES data. This analysis uses the full sample (petty misdemeanor, misdemenor, gross misdemeanor, felony). We also include an extention set of mixed models to Native American populations, with hypothesized interactions with alcohol-related and hunting and fisheries violations to examine if the courtesty stigma and steretype congruence effects found in the Black and Latino models extend to Native American populations.

A few differences are of note: "SRA score" and "offender score", or comparable measures, are not redily available in the MCAO data. We decided to preliminarily use the number of prior offenses as a proxy for "offender score" and the degree of charge (e.g., gross misdemeanor) as an indicator of offense severity akin to "SRA score". Additionally, we use a more expansive offense type categorization for our Native American extentions, including both alcohol-related and hunting and fisheries violations in addition to violent and drug indicators. Hunting and fisheries violations were not included in the felony level analyses, as no felony-level hunting or fisheries violations were documented for Native American defendants, which does not allow the estimation of that specific interaction.

Distribution of Fines and Fees

Distribution of Fine and Fee Amount < $1000

Note: Adjusted to Jan. 2018 dollars

Descriptive Statistics

Table 1: Descriptive Statistics - Felony Data

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Total Fine/Fee	5,273,868	167.340	498.542	0.000	53.580	187.128	356,515.000
Priors	5,297,819	5.055	7.490	0.000	1.000	7.000	256.000
Age	5,299,853	37.102	14.115	15	25	47	115
Male	4,656,046	0.655	0.476	0.000	0.000	1.000	1.000
White	2,795,689	0.600	0.490	0.000	0.000	1.000	1.000
Asian	2,795,689	0.043	0.202	0.000	0.000	0.000	1.000
Black	2,795,689	0.237	0.425	0.000	0.000	0.000	1.000
Hispanic	2,795,689	0.070	0.255	0.000	0.000	0.000	1.000
Native Am.	2,795,689	0.031	0.174	0.000	0.000	0.000	1.000
Other Race	2,795,689	0.019	0.138	0.000	0.000	0.000	1.000
Trial	5,264,269	0.00004	0.007	0.000	0.000	0.000	1.000
Petty Misdemeanor	5,299,824	0.716	0.451	0.000	0.000	1.000	1.000
Misdemenor	5,299,824	0.237	0.425	0.000	0.000	0.000	1.000
Gross Misdemeanor	5,299,824	0.024	0.153	0.000	0.000	0.000	1.000
Felony	5,299,824	0.023	0.149	0.000	0.000	0.000	1.000
Violent	5,250,305	0.016	0.127	0.000	0.000	0.000	1.000
Alcohol/DUI	5,250,305	0.044	0.204	0.000	0.000	0.000	1.000
Drug	5,250,305	0.018	0.132	0.000	0.000	0.000	1.000
Hunt/Fish	5,250,305	0.005	0.071	0.000	0.000	0.000	1.000
Other Offense	5,250,305	0.917	0.276	0.000	1.000	1.000	1.000
Percent Minority	5,288,494	14.137	6.086	1.348	7.822	18.930	50.801
Percent Vote Republican	5,288,494	39.988	8.186	31.633	35.716	47.431	58.858
Percent Law and Justice	5,288,494	15.214	2.863	8.467	13.370	18.393	22.683

Bivariate Correlations

Table 2: Pairwise Correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
Total Fine/Fee	1												
Priors	0.01	1											
Age	-0.04	-0.06	1										
Male	0.02	0.08	0.02	1									
White	0.02	-0.16	0.03	0.03	1								
Asian	-0.01	-0.06	0	0	-0.26	1							
Black	-0.02	0.22	-0.01	-0.03	-0.68	-0.12	1						
Hispanic	0.01	-0.03	-0.02	0.03	-0.34	-0.06	-0.15	1					
Native Am.	0.01	0.01	-0.02	-0.04	-0.22	-0.04	-0.1	-0.05	1				
Other Race	0	0.01	-0.02	0	-0.17	-0.03	-0.08	-0.04	-0.03	1			
Trial	0	0.01	0	0	0	0	0.01	0	0	0	1		
Petty Misdemeanor	-0.17	-0.1	0.17	-0.08	0.01	0.04	0.03	-0.04	-0.1	0	-0.01	1	
Misdemenor	0.12	0.06	-0.16	0.05	-0.02	-0.03	-0.02	0.05	0.06	0	0	-0.89	1
Gross Misdemeanor	0.1	0.04	-0.02	0.04	0.03	-0.02	-0.03	-0.01	0.04	-0.01	0	-0.25	-0.09
Felony	0.06	0.09	-0.05	0.05	-0.01	-0.02	0	-0.01	0.06	-0.01	0.02	-0.24	-0.09
Violent	0.03	0.05	-0.04	0.06	-0.02	-0.02	0.01	0	0.05	0	0.01	-0.2	0.04
Alcohol/DUI	0.1	-0.03	-0.1	0.03	0.07	-0.02	-0.08	-0.01	0.03	-0.01	0	-0.32	0.19
Drug	0.03	0.04	-0.09	0.04	0.02	-0.02	-0.02	-0.01	0.03	0	0	-0.09	-0.01
Hunt/Fish	0	-0.02	0.01	0.04	0.03	0.01	-0.03	-0.01	-0.01	0	0	-0.11	0.12
Other Offense	-0.11	-0.01	0.13	-0.08	-0.06	0.03	0.07	0.02	-0.06	0.01	-0.01	0.4	-0.19
Percent Minority	-0.07	0.09	0.12	-0.06	-0.28	0.07	0.27	0.01	0	0.03	0.01	0.25	-0.21
Percent Vote Republican	0.06	-0.08	-0.12	0.05	0.23	-0.08	-0.24	0	0.04	-0.02	0	-0.24	0.2
Percent Law and Justice	0.01	0	-0.02	0	0.06	0.03	-0.06	-0.03	0.01	-0.02	0	-0.04	0.03

Table 3 Replication

The table below presents a replication of Table 3 in Harris et. al. 2011 with data using all charge levels. A few differences are of note: "SRA score" and "offender score", or comparable measures, are not redily available in the MCAO data. We decided to preliminarily use the number of prior offenses as a proxy for "offender score". Additionally, we use a more expansive offense type categorization for our Native American extentions, including alcohol-related in addition to violent and drug indicators. We run each of the models on a subset of cases consisting of all felony cases, as to make a closer comparison to the superior court data in Washington.

Table 3: Harris et. al. ASR Table 3 Replication - MCAO All Charges

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Black		-0.098^{***}	-0.110^{***}	-0.110^{***}
Hispanic		0.086^{***}	0.023^{***}	0.022^{***}
Asian		0.038^{***}	0.012^{***}	0.012^{***}
Native Am.		-0.143^{***}	-0.193^{***}	-0.193^{***}
Other Race		0.016^{**}	-0.012^{*}	-0.012^{*}
Male			0.021^{***}	0.021^{***}
log(Age)			-0.153^{***}	-0.153^{***}
Priors			-0.007^{***}	-0.007^{***}
Trial			-0.141	-0.140
Petty Misdemeanor			0.081^{***}	0.083^{***}
Misdemeanor			0.560^{***}	0.562^{***}
Gross Misdemeanor			0.649^{***}	0.650^{***}
Drug			0.384^{***}	0.384^{***}
Alcohol.DUI			0.554^{***}	0.554^{***}
Hunt.Fish			-0.047^{***}	-0.045^{***}
Other Offense			0.272^{***}	0.273^{***}
Percent Minority				0.0001
Percent Vote Republican				0.004
Percent Law and Justice				-0.010
Constant	5.141^{***}	5.239^{***}	5.175^{***}	5.111^{***}
L1 Variance	0.86	1.19	1.12	1.12
L2 Variance	0.02	0.03	0.03	0.03
N	5,273,868	2,771,603	2,675,391	2,668,763

*p < .05; **p < .01; ***p < .001

Table 4: Harris et. al. ASR Table 4 Replication - MCAO All Charges

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Priors	−0.007***	−0.007***	−0.008***	−0.008***
Age	−0.169***	−0.169***	−0.171***	−0.174***
Male	0.028***	0.027***	0.029***	0.030***
Black	−0.111***	−0.005	−0.091***	−0.105***
Trial	−0.131	−0.127	−0.055	0.060
Petty Misdemeanor	−0.350***	−0.351***	−0.176***	0.291***
Misdemeanor	0.022***	0.023***	0.009*	0.007
Gross Misdemeanor	0.525***	0.526***	0.513***	0.519***
Violent	0.738***	0.739***	0.729***	0.740***
Percent Black	−0.029***	−0.029***	−0.028**	−0.023**
Percent Vote Republican	0.002	0.002	0.002	0.002
Percent Law and Justice	−0.006	−0.006	−0.006	−0.007
Black*Percent Black		−0.011***		
Black*Violent			−0.683***	
Violent*Percent Black				−0.120***
Constant	5.611***	5.614***	5.618***	5.594***
L1 Variance	1.12	1.12	1.12	1.11
L2 Variance	0.02	0.02	0.02	0.02
N	2,668,763	2,668,763	2,668,763	2,668,763

*p < .05; **p < .01; ***p < .001

Table 5: Harris et. al. ASR Table 5 Replication - MCAO All Charges

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Priors	−0.008***	−0.008***	−0.008***	−0.008***
Age	−0.158***	−0.158***	−0.158***	−0.159***
Male	0.025***	0.025***	0.025***	0.025***
Hispanic	0.052***	0.064***	0.051***	0.052***
Trial	−0.175*	−0.175*	−0.175*	−0.169*
Petty Misdemeanor	0.136***	0.136***	0.133***	0.297***
Misdemeanor	0.183***	0.183***	0.183***	0.183***
Gross Misdemeanor	0.670***	0.670***	0.670***	0.671***
Drug	0.864***	0.864***	0.864***	0.866***
Percent Hispanic	0.001	0.001	0.001	0.002
Percent Vote Republican	0.005	0.005	0.005	0.005
Percent Law and Justice	−0.010*	−0.010*	−0.010*	−0.011*
Hispanic*Percent Hispanic		−0.002		
Hispanic*Drug			0.057***	
Drug*Percent Hispanic				−0.033***
Constant	5.281***	5.280***	5.281***	5.274***
L1 Variance	1.13	1.13	1.13	1.13
L2 Variance	0.03	0.03	0.03	0.03
N	2,668,763	2,668,763	2,668,763	2,668,763

*$p < .05$; **$p < .01$; ***$p < .001$

Table 6: Native American Interactions - MCAO All Charges

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Priors	−0.008***	−0.008***	−0.008***	−0.008***
Age	−0.151***	−0.150***	−0.150***	−0.150***
Male	0.021***	0.022***	0.022***	0.022***
Native Am.	−0.173***	−0.204***	−0.161***	−0.176***
Trial	−0.184*	−0.183*	−0.183*	−0.183*
Petty Misdemeanor	0.158***	0.160***	0.160***	0.159***
Misdemeanor	0.617***	0.621***	0.621***	0.621***
Gross Misdemeanor	0.675***	0.678***	0.677***	0.678***
Alcohol.DUI	0.314***	0.311***	0.318***	0.302***
Hunt/Fish		−0.298***	−0.302***	−0.305***
Percent NA	0.005	0.001	0.005	0.004
Percent Vote Republican	0.005*	0.005*	0.005*	0.005*
Percent Law and Justice	−0.010*	−0.011*	−0.011*	−0.011*
Native Am.*Percent NA		0.008***		
Native Am.*Alcohol.DUI			−0.144***	
Native Am.*Hunt/Fish			0.146	
Alcohol.DUI*Percent NA				0.006***
Hunt/Fish*Percent NA				0.003
Constant	5.243***	5.261***	5.247***	5.252***
L1 Variance	1.12	1.12	1.12	1.12
L2 Variance	0.03	0.03	0.03	0.03
N	2,668,763	2,668,763	2,668,763	2,668,763

*$p < .05$; **$p < .01$; ***$p < .001$