

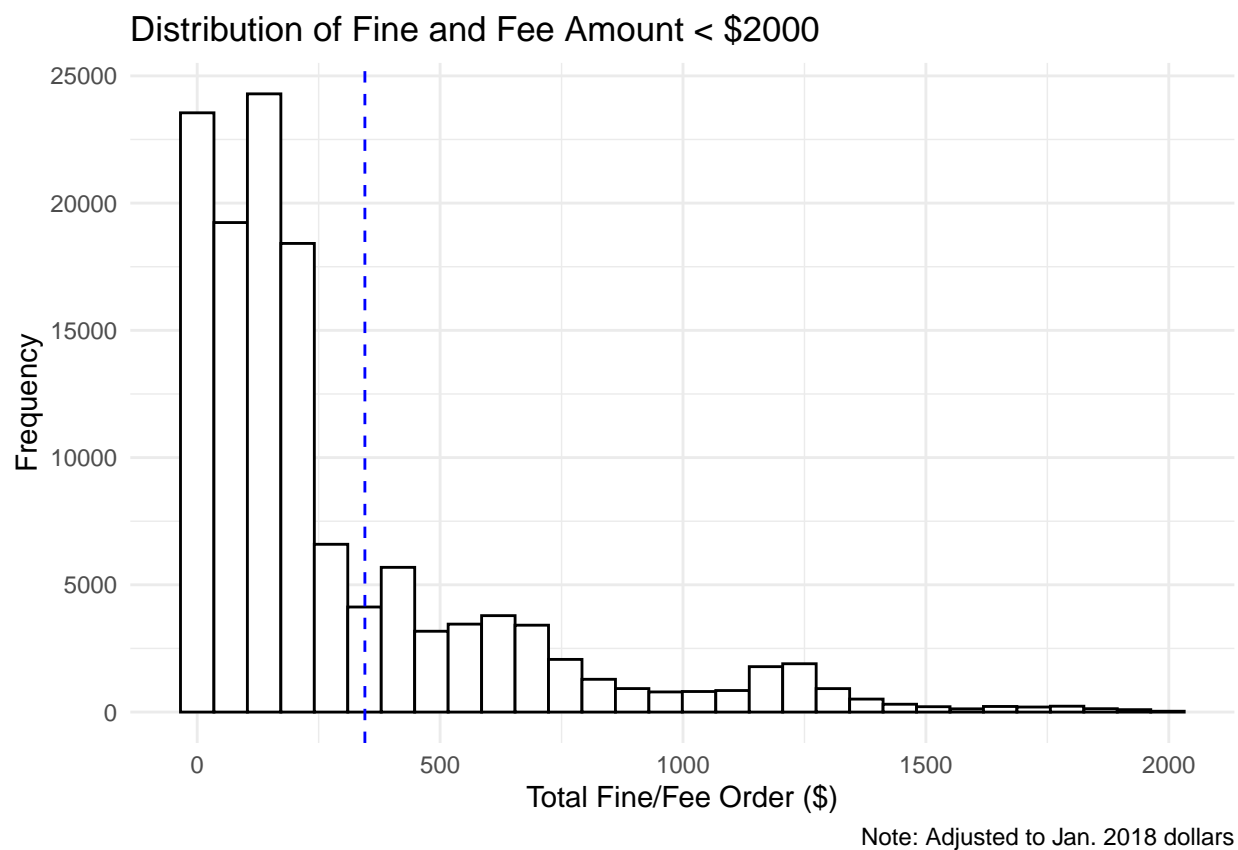
ASR Replication Preliminary - Felony

Ryan Larson - UMN

11/04/2019

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 felony only data which more closely reflects the ASR paper's use of Washington Superior Court data. We also include an extension set of mixed models to Native American populations, with hypothesized interactions with alcohol-related and hunting and fisheries violations to examine if the courtsey stigma and stereotype congruence effects found in the Black and Latino models extend to Native American populations.

Distribution of Fines and Fees



Descriptive Statistics

Table 1: Descriptive Statistics - Felony Data

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Total Fine/Fee	130,037	345.168	3,045.606	0.000	82.680	399.620	369,598.100
Priors	159,386	9.902	10.901	0.000	2.000	14.000	170.000
Age	159,427	32.537	10.874	15	24	39	96
Male	157,642	0.802	0.399	0.000	1.000	1.000	1.000
White	149,797	0.575	0.494	0.000	0.000	1.000	1.000
Asian	149,797	0.024	0.154	0.000	0.000	0.000	1.000
Black	149,797	0.241	0.428	0.000	0.000	0.000	1.000
Hispanic	149,797	0.062	0.241	0.000	0.000	0.000	1.000
Native Am.	149,797	0.082	0.274	0.000	0.000	0.000	1.000
Other Race	149,797	0.016	0.125	0.000	0.000	0.000	1.000
Trial	159,427	0.001	0.030	0	0	0	1
Violent	159,427	0.374	0.484	0	0	1	1
Alcohol/DUI	159,427	0.068	0.251	0	0	0	1
Drug	159,427	0.257	0.437	0	0	1	1
Hunt/Fish	159,427	0.0002	0.014	0	0	0	1
Other Offense	159,427	0.301	0.459	0	0	1	1
Percent Minority	158,774	10.628	6.768	1.348	5.875	17.624	50.801
Percent Vote Republican	158,774	43.950	8.649	31.633	35.716	50.670	58.858
Percent Law and Justice	158,774	15.813	3.131	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 (log)	1												
Priors	-0.13	1											
Age	-0.01	0.01	1										
Male	-0.01	0.08	-0.01	1									
White	0.18	-0.1	0.09	-0.05	1								
Asian	-0.01	-0.01	-0.04	0.01	-0.18	1							
Black	-0.24	0.17	-0.05	0.09	-0.66	-0.09	1						
Hispanic	0.02	-0.06	-0.04	0.03	-0.3	-0.04	-0.14	1					
Native Am.	0.04	-0.01	-0.03	-0.08	-0.35	-0.05	-0.17	-0.08	1				
Other Race	-0.01	-0.01	-0.02	0	-0.15	-0.02	-0.07	-0.03	-0.04	1			
Trial	-0.01	0.01	0	0.01	-0.02	0	0.03	0	-0.01	0	1		
Violent	0.02	-0.01	-0.04	0.18	-0.1	-0.02	0.1	0.02	0.01	0	0.02	1	
Alcohol.DUI	0.11	-0.05	0.04	0.01	0.07	-0.01	-0.08	0	0	-0.01	0	-0.21	1
Drug	-0.02	0.02	-0.01	-0.1	0.07	0.01	-0.08	0	-0.01	0	-0.01	-0.45	-0.16
Hunt.Fish	0.01	-0.01	0	0.01	0.01	0	-0.01	0	0	0	0	-0.01	0
Other Offense	-0.07	0.02	0.04	-0.1	0	0.02	0.01	-0.01	-0.01	0	-0.01	-0.51	-0.18
Percent Minority	-0.35	0.13	-0.01	0.03	-0.35	0.07	0.32	-0.02	0.11	0.02	0.04	0.02	-0.05
Percent Vote Republican	0.27	-0.09	0	-0.04	0.27	-0.06	-0.29	0.02	0.01	-0.02	-0.03	-0.04	0.04
Percent Law and Justice	0.08	0	0	0	0.06	0.01	-0.07	-0.01	0.03	-0.01	-0.02	0.02	-0.01

Table 3 Replication

The table below presents a replication of Table 3 in Harris et. al. 2011 with data using only felony offenses. A few differences are of note: “SRA score” and “offender score”, or comparable measures, are not readily 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 extensions, 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 Felony Data

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Black		−0.185***	−0.170***	−0.171***
Hispanic		−0.121***	−0.148***	−0.149***
Asian		−0.092**	−0.086*	−0.086*
Native Am.		−0.173***	−0.158***	−0.157***
Other Race		−0.072	−0.074	−0.077
Male			0.067***	0.067***
log(Age)			−0.082***	−0.082***
Priors			−0.007***	−0.007***
Trial			1.190***	1.190***
Alcohol.DUI			−0.173***	−0.174***
Drug			0.504***	0.504***
Hunt.Fish			0.552	0.551
Other Offense			−0.290***	−0.291***
Percent Minority				−0.004
Percent Vote Republican				0.014
Percent Law and Justice				−0.038
Constant	5.263***	5.305***	5.652***	5.557***
L1 Variance	3.33	3.26	3.21	3.21
L2 Variance	0.46	0.46	0.45	0.43
N	130,037	123,756	122,880	122,354

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

Table 4: Harris et. al. ASR Table 4 Replication - MCAO Felony Data

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Priors	-0.008***	-0.008***	-0.008***	-0.008***
Age	-0.048**	-0.047**	-0.044**	-0.042*
Male	0.102***	0.102***	0.106***	0.110***
Black	-0.156***	-0.252***	-0.269***	-0.175***
Trial	1.213***	1.206***	1.191***	1.148***
Violent	0.132***	0.131***	0.066***	-0.133***
Percent Black	-0.137***	-0.138***	-0.138***	-0.158***
Percent Vote Republican	0.002	0.003	0.002	0.002
Percent Law and Justice	-0.023	-0.023	-0.024	-0.024
Black*Percent Black		0.013***		
Black*Violent			0.252***	
Violent*Percent Black				0.052***
Constant	5.803***	5.795***	5.819***	5.913***
L1 Variance	3.25	3.25	3.25	3.24
L2 Variance	0.36	0.36	0.36	0.36
N	122,354	122,354	122,354	122,354

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

Table 5: Harris et. al. ASR Table 5 Replication - MCAO Felony Data

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Priors	-0.009***	-0.009***	-0.009***	-0.009***
Age	-0.047**	-0.047**	-0.047**	-0.046**
Male	0.111***	0.111***	0.111***	0.114***
Hispanic	-0.083***	-0.096*	-0.092***	-0.083***
Trial	1.210***	1.210***	1.210***	1.204***
Drug	-0.108***	-0.108***	-0.110***	0.060**
Percent Hispanic	0.003	0.002	0.003	0.012
Percent Vote Republican	0.016	0.016	0.016	0.016
Percent Law and Justice	-0.043*	-0.043*	-0.043*	-0.043*
Hispanic*Percent Hispanic		0.002		
Hispanic*Drug			0.035	
Drug*Percent Hispanic				-0.035***
Constant	5.274***	5.275***	5.274***	5.225***
L1 Variance	3.26	3.26	3.26	3.26
L2 Variance	0.43	0.43	0.43	0.44
N	122,354	122,354	122,354	122,354

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

Table 6: Native American Interactions - MCAO Felony Data

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Priors	−0.008***	−0.008***	−0.008***	−0.008***
Age	−0.077***	−0.077***	−0.077***	−0.077***
Male	0.110***	0.110***	0.110***	0.110***
Native Am.	−0.104***	−0.092***	−0.078***	−0.105***
Trial	1.213***	1.213***	1.213***	1.213***
Alcohol.DUI	0.649***	0.649***	0.678***	0.671***
Percent NA	0.016	0.018	0.016	0.017
Percent Vote Republican	0.019	0.019	0.019	0.019
Percent Law and Justice	−0.044*	−0.044*	−0.044*	−0.044*
Native Am.*Percent NA		−0.003		
Native Am.*Alcohol.DUI			−0.336***	
Alcohol.DUI*Percent NA				−0.012**
Constant	5.171***	5.165***	5.172***	5.170***
L1 Variance	3.23	3.23	3.23	3.23
L2 Variance	0.43	0.43	0.43	0.43
N	122,354	122,354	122,354	122,354

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