# ASR Replication Preliminary - Felony

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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 felony only data which more closely reflects the ASR paper's use of Washington Superior Court data. 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.

Distribution of Fines and Fees

Distribution of Fine and Fee Amount < $2000

Note: Adjusted to Jan. 2018 dollars
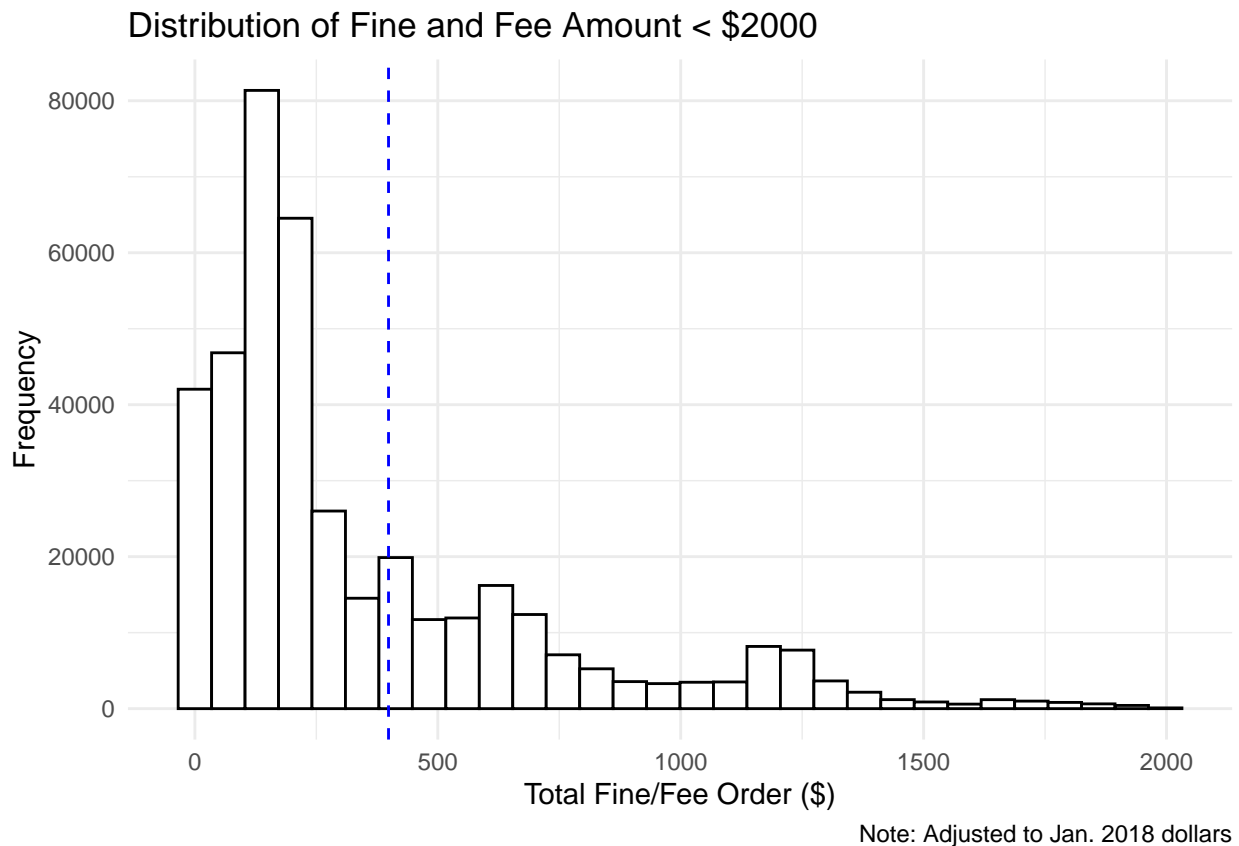
Descriptive Statistics

Table 1: Descriptive Statistics - Felony Data

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Total Fine/Fee	406,074	398.586	1,989.647	0.000	136.250	502.950	356,515.000
Severity (Conv.)	412,161	3.859	2.138	1.000	2.000	5.000	12.000
Crim. Hist. Pts.	412,161	1.947	2.010	0.000	0.000	3.000	6.000
Age	422,573	32.612	10.861	15	24	39	95
Male	418,245	0.795	0.404	0.000	1.000	1.000	1.000
White	404,801	0.647	0.478	0.000	0.000	1.000	1.000
Asian	404,801	0.020	0.141	0.000	0.000	0.000	1.000
Black	404,801	0.161	0.367	0.000	0.000	0.000	1.000
Hispanic	404,801	0.064	0.244	0.000	0.000	0.000	1.000
Native Am.	404,801	0.095	0.294	0.000	0.000	0.000	1.000
Other Race	404,801	0.013	0.115	0.000	0.000	0.000	1.000
Trial	422,573	0.0003	0.017	0	0	0	1
Violent	415,821	0.335	0.472	0.000	0.000	1.000	1.000
Alcohol/DUI	415,821	0.073	0.260	0.000	0.000	0.000	1.000
Drug	415,821	0.282	0.450	0.000	0.000	1.000	1.000
Hunt/Fish	415,821	0.0003	0.017	0.000	0.000	0.000	1.000
Other Offense	415,821	0.310	0.463	0.000	0.000	1.000	1.000
Percent Minority	419,866	8.737	6.734	1.348	4.431	11.303	50.801
Percent Vote Republican	419,866	45.720	8.416	31.633	38.655	52.416	58.858
Percent Law and Justice	419,866	15.928	3.175	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												
Severity (Conv.)	0.01	1											
Crim. Hist. Pts.	-0.01	-0.01	1										
Age	0	0	0.05	1									
Male	0.01	0.03	0.04	-0.01	1								
White	0.02	-0.02	-0.02	0.09	-0.03	1							
Asian	-0.01	0	0	-0.03	0.01	-0.19	1						
Black	-0.03	0.03	0.04	-0.04	0.08	-0.59	-0.06	1					
Hispanic	0.01	0.01	-0.01	-0.05	0.03	-0.35	-0.04	-0.11	1				
Native Am.	-0.01	-0.01	0	-0.03	-0.08	-0.44	-0.05	-0.14	-0.08	1			
Other Race	0	0	0	-0.02	-0.01	-0.16	-0.02	-0.05	-0.03	-0.04	1		
Trial	0	0.02	0	0	0.01	-0.01	0	0.02	0	0	0	1	
Violent	-0.01	0.09	-0.01	-0.05	0.18	-0.09	-0.02	0.1	0.02	0.01	0.01	0.01	1
Alcohol.DUI	0.03	0.03	-0.01	0.06	0.02	0.05	-0.01	-0.06	0	0	0	0	-0.2
Drug	0.01	-0.03	-0.01	-0.01	-0.12	0.07	0.01	-0.08	0	-0.01	-0.01	0	-0.44
Hunt.Fish	0	0	0	0	0.01	0.01	0	-0.01	0	0	0	0	-0.01
Other Offense	-0.02	-0.08	0.02	0.03	-0.08	-0.01	0.02	0.01	-0.02	0	0	0	-0.48
Percent Minority	-0.02	0.02	0.02	-0.01	0.01	-0.33	0.07	0.24	-0.01	0.21	0.02	0.03	0.03
Percent Vote Republican	0.02	-0.02	-0.02	0	-0.03	0.21	-0.06	-0.23	0.02	-0.03	-0.01	-0.02	-0.06
Percent Law and Justice	-0.03	-0.01	0.01	0	0.01	0	0.01	-0.02	-0.02	0.02	0	-0.01	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 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 Felony Data

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Severity Score (Conv.)			−0.003*	−0.002*
Crim. Hist. Pts.			−0.026***	−0.026***
Black		−0.170***	−0.156***	−0.157***
Hispanic		−0.100***	−0.103***	−0.106***
Asian		−0.001	0.014	0.011
Native Am.		−0.194***	−0.179***	−0.180***
Other Race		0.002	0.031	0.022
Male			0.060***	0.059***
log(Age)			−0.098***	−0.097***
Trial			0.568***	0.568***
Alcohol.DUI			0.043***	0.040***
Drug			0.505***	0.506***
Hunt.Fish			0.534***	0.532***
Other Offense			−0.166***	−0.169***
Percent Minority				−0.006
Percent Vote Republican				0.009
Percent Law and Justice				−0.047*
Constant	5.364***	5.402***	5.741***	6.041***
L1 Variance	2.6	2.56	2.48	2.48
L2 Variance	0.47	0.46	0.45	0.43
N	406,074	389,378	371,592	369,132

*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)
Severity Score (Conv.)	0.002*	0.002*	0.002	0.001
Crim. Hist. Pts.	−0.028***	−0.028***	−0.028***	−0.028***
Age	−0.063***	−0.063***	−0.062***	−0.062***
Male	0.081***	0.081***	0.083***	0.083***
Black	−0.157***	−0.187***	−0.216***	−0.164***
Trial	0.577***	0.572***	0.570***	0.560***
Violent	−0.0001	−0.0002	−0.025***	−0.085***
Percent Black	−0.131***	−0.132***	−0.131***	−0.140***
Percent Vote Republican	−0.001	−0.001	−0.001	−0.001
Percent Law and Justice	−0.034	−0.034	−0.034	−0.034
Black*Percent Black		0.006**		
Black*Violent			0.143***	
Violent*Percent Black				0.025***
Constant	6.304***	6.301***	6.308***	6.333***
L1 Variance	2.51	2.51	2.51	2.51
L2 Variance	0.37	0.37	0.37	0.37
N	369,132	369,132	369,132	369,132

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

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

| | Total Fine and Fee Order (log) | | | |
	(1)	(2)	(3)	(4)
Severity Score (Conv.)	0.003*	0.003*	0.002*	0.003*
Crim. Hist. Pts.	−0.029***	−0.029***	−0.029***	−0.029***
Age	−0.059***	−0.059***	−0.059***	−0.059***
Male	0.083***	0.083***	0.083***	0.084***
Hispanic	−0.061***	−0.046*	−0.074***	−0.061***
Trial	0.554***	0.554***	0.554***	0.554***
Drug	0.071***	0.071***	0.068***	0.105***
Percent Hispanic	0.005	0.006	0.005	0.008
Percent Vote Republican	0.012	0.012	0.012	0.012
Percent Law and Justice	−0.053**	−0.053**	−0.053**	−0.053**
Hispanic*Percent Hispanic		−0.002		
Hispanic*Drug			0.047*	
Drug*Percent Hispanic				−0.008***
Constant	5.700***	5.698***	5.701***	5.688***
L1 Variance	2.51	2.51	2.51	2.51
L2 Variance	0.43	0.43	0.43	0.43
N	369,132	369,132	369,132	369,132

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

Table 6: Native American Interactions - MCAO Felony Data

	Total Fine and Fee Order (log)			
	(1)	(2)	(3)	(4)
Severity Score (Conv.)	−0.0004	−0.0004	−0.0004	−0.0004
Crim. Hist. Pts.	−0.028***	−0.028***	−0.028***	−0.028***
Age	−0.093***	−0.093***	−0.093***	−0.093***
Male	0.060***	0.060***	0.060***	0.060***
Native Am.	−0.158***	−0.149***	−0.141***	−0.158***
Trial	0.565***	0.565***	0.565***	0.565***
Alcohol.DUI	0.559***	0.559***	0.580***	0.572***
Percent NA	0.014	0.015	0.014	0.014
Percent Vote Republican	0.014	0.014	0.014	0.014
Percent Law and Justice	−0.053*	−0.053*	−0.053*	−0.053*
Native Am.*Percent NA		−0.002		
Native Am.*Alcohol.DUI			−0.226***	
Alcohol.DUI*Percent NA				−0.006**
Constant	5.730***	5.727***	5.731***	5.730***
L1 Variance	2.49	2.49	2.49	2.49
L2 Variance	0.43	0.43	0.43	0.43
N	369,132	369,132	369,132	369,132

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