Models of Bias (not justice):
Interactive analysis is better than the additive approach for explaining the impact of race and gender on processing decisions in the Juvenile Justice System

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ABSTRACT

Although criminologists have long been concerned with the impact of race and sex on an offender's treatment by the criminal justice system, it has only been in comparatively recent times that criminologists have begun to consider how these statuses may jointly affect an offender's treatment by the system. This article explores whether additive or interactive approaches to the impact of sex and race on processing decisions are better. This question is explored with reference to logistic regression modeling of juvenile detention data from the State of Missouri. The results of this interactive modeling suggest that looking at race and sex in isolation can produce misleading results and that it is important to look at the interactive impact of sex and race in order to fully appreciate the impact of demographic statuses on criminal justice processing outcomes.

INTRODUCTION

Few controversies in the criminal justice field have engendered as much debate as the controversies surrounding the impact of demographic statuses, particularly race and sex, on the system's treatment of accused individuals. Most scholars examining the impact of race on processing by the criminal justice system suggest that minorities are disadvantaged by their racial status (see e.g., Chambliss, 1997: 1995: Georges-Abeyie, 1984: Kempf-Leonard & Sontheimer, 1995: Krisberg & Austin, 1993).[2] The criminological literature is more split with regard to the impact of sex on processing

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[2] It should be noted that a small number of scholars dismiss the discrimination hypothesis and suggest that minorities are treated the same or perhaps even more leniently by the system than similarly situated White defendants (see e.g., Blumstein, 1993: Wilbanks, 1987).

decisions. Some scholars suggest that females are treated more leniently or "chivalrously" by the system (Bishop & Frazier, 1992: Pollak, 1961) while others assert that the system is patriarchal and sexist in its treatment of female offenders (Chesney-Lind & Shelden, 1998: Mann, 1984).

While race and sex are the chief demographic attributes believed to influence the system's treatment of offenders, much of the scholarly work in this area has considered race and sex in isolation. Such additive approaches suggest that one can understand the treatment of people by considering the impacts of race and sex separately. For example, based on an additive approach, if one subscribes to the sexist hypothesis, one would assume that Black girls are the victims of both racism and sexism and thus are doubly disadvantaged. Someone subscribing to the chivalry hypothesis and following the additive approach would conclude that Black girls are the recipients of leniency based upon their sex but are discriminated against based upon their race.

Some scholars have abandoned the additive approach and argue that considering the impacts of race and sex on processing by the criminal justice system in isolation is a mistake because the system's response has long been jointly conditioned by both race and sex (Spohn & Spears, 1997: Spohn, Welch & Gruhl, 1985: Young, 1994). These scholars suggest that discrimination tied to demographic status is not merely the sum of its parts. Rather, race and sex interact and jointly influence the treatment of people in ways not necessarily predictable from a simplistic analysis of whether the person is the victim of sexism, racism or both (Spelman, 1988).

Although there are many points in the process where decisions regarding the treatment of offenders occur, for juveniles, one of the most important decision points is detention. Detention is an unpleasant and potentially dangerous experience in that children in detention are frequently subjected to overcrowded, unsafe and unhygienic conditions (Klein, 1995: Parent, 1993: Parikh et. al., 1997: Snyder & Sickmund, 1995). Even worse, they are sometimes raped and beaten by other inmates or staff (Geller, 1995).

Detention also has an adverse impact on the child's subsequent treatment (Feld, 1999). For example, detained children are more likely to be formally processed than are no detained children (see e.g., Bishop & Frazier, 1992: Frazier & Cochran, 1986) and they are "much more likely to be found delinquent than those not detained" (Clarke & Koch, 1980, p.293). In addition, detaining children is an expensive proposition, which diverts substantial resources from other areas of the juvenile justice system (Dale, 1998). Given the importance of the detention decision for the child and the system, it is an appropriate juncture for evaluating whether interactive or additive explanations are better at accounting for the treatment of juveniles by the juvenile justice system.

THEORY

Elizabeth Spelman's ground-breaking work was among the first to discuss the theoretical importance of analyzing race and sex jointly. She argues that "additive analyses of identity and oppression can work against an understanding of the relations between gender and other elements of identity [such as racism]" (1988, p.115). She suggests that

such additive approaches tend to ignore the situation of Black women and to distort the situation of Black men (Spelman, 1988).

Most of the work examining the interaction between race and sex focuses on explaining the extremely disproportionate representation of Black males within the justice system (Hagan & Peterson, 1995). Some scholars suggest that young Black males have been vilified by the media, politicians, law enforcement and publicity-seeking criminologists to such an extent that they are commonly regarded as "teenage super predators" (Chambliss, 1999: Miller, 1996a). Decision-makers within the adult and juvenile criminal justice systems treat them accordingly, subjecting them to incarceration more frequently and for longer periods of time in the name of public safety (Chambliss, 1999: 1995: Katz & Spohn, 1995: Miller, 1996a). Krisberg and Austin suggest that stereotypes that Black boys are violent and likely to belong to gangs causes juvenile court judges to securely detain these children with greater frequency than children belonging to other demographic groups, particularly Whites (Krisberg & Austin, 1993).

While scholars focusing specifically on the treatment of Black males are generally in agreement that being young, Black and male exerts a synergistic effect that increases the severity of the treatment accorded Black males as compared to other young people (Steffensmeier et. al., 1998), a consensus among scholars focusing on the treatment of Black girls has yet to emerge. Some scholars continue to suggest that Black girls are "doubly disadvantage" by their status as both females and minorities, suffering both sexist and racist discrimination (Mann, 1995). This duel disadvantage might make Black

girls particularly likely candidates for more severe treatment by the juvenile justice system for equivalent conduct than children belonging to other demographic groups.

Others suggest that Black women are benefited by their sex but disadvantaged by their race, when it comes to treatment by the adult or juvenile justice systems (Lewis, 1981). These theorists suggest that the chivalrous treatment extended to White females is tempered, if not denied, as a result of race when the system processes Black females (Spohn et. al., 1985). Such scholars predict that Black girls will be treated less severely than Black boys but more severely than White girls (Lewis, 1981: Spohn et. al., 1985).

Researchers focusing on the treatment of Black females imply that White girls may be the recipients of especially lenient, chivalrous treatment when they are processed by the justice system (Simpson, 1989: Spohn et. al., 1985). It is certainly possible that the system is least inclined to detain, incarcerate or otherwise severely sanction White females. But, it is also possible that as particular targets of the juvenile court's protectionist impulses, White girls may actually find themselves treated to the harshest processing of all, once offense severity and prior record are controlled. As explained by Coramae Mann, the juvenile court may be more willing to forcefully intervene (detention, out of home placement, etc.) into White girls' lives in order to help their parents control and protect their children (Mann, 1984).

Because the treatment of White males is the presumptive standard against which the treatment of all other groups is judged, express efforts to explain the juvenile justice

system's treatment of White boys are rarely undertaken. Implicit in most of the theoretical and empirical works focusing on the influence of sex and race on processing by the justice system is the notion that the system's treatment of White males is not affected by considerations of race and sex. Thus, it is often supposed, that while Blacks suffer from racism and females either suffer from sexism or benefit from chivalry, White males suffer no special detriment but receive no special consideration on account of race or sex. Although the reverse discrimination hypothesis tends to be discussed in terms of race only, it is easy to see how the rationale could apply to White males exclusively. Possibly, some judges treat White boys more harshly than other children on the theory that they, as members of the preeminent social caste, "know better" and should be expected to confine their behavior within legal limits.

LITERATURE REVIEW

Empirical research into the system's treatment of Black males comports with theoretical expectations and tends to show that Black males suffer harsher treatment from the system then either Black females or Whites (Katz & Spohn, 1995: Steffensmeier et. al., 1998). Using data from Detroit documenting pretrial release status among violent felons, Katz and Spohn found that among adults, Black males are least likely to be released pending trial (Katz & Spohn, 1995). Steffensmeier and his colleagues also found evidence suggesting that Black males are particularly disadvantaged. Analyzing statewide adult sentencing outcomes in Pennsylvania for 1989 – 1992, they found that young, Black males received the harshest sentences of any group (they compared groups by age, race and sex) (Steffensmeier et. al., 1998). They also noted that the main effects of race, sex

and age were more modest compared to the very large differences in sentencing outcomes across race-gender-age combinations (Steffensmeier et. al., 1998). An attempt to replicate Steffensmeier and his colleagues results also produced some evidence that young Black males were the most likely to be incarcerated (Spohn & Holleran, 2000).

Especially harsh treatment of Black males may exaggerate the degree to which females, particularly Black females, are treated with leniency, as discovered by Spohn and her colleagues (1985) when they studied sentencing in a large northeastern city. To their surprise, they discovered that after controlling for type of crime, prior record, type of attorney, type of plea, pretrial release status, charge reduction and bail amount that Black females were treated about the same as White males in terms of incarceration (Spohn et. al., 1985). This fact was obscured and a chivalry effect was apparent when males and females were analyzed without reference to race because of the greater propensity of the courts to incarcerate Black males (Spohn et. al., 1985).

In the juvenile context, using data from the investigation reports of adjudicated delinquent girls on probation in Los Angeles County, Jody Miller found that race played a significant role when it came to placement decisions for seriously delinquent girls (Miller, 1996b). White girls were sent to treatment-oriented facilities, whereas Black girls were sent to punitive, detention-oriented facilities (Miller, 1996b). The race effect on type of placement persisted despite class differences. Thus, middle class Black girls were more likely to be labeled as "criminal" and punished than poor White girls who tended to be labeled as "in need of help" and treated (Miller, 1996b, p.233). The cause of

this difference appears to stem from racialized gender expectations on the part of probation officers who tend to attribute the delinquency of Black girls to inappropriate lifestyle choices and the delinquency of White girls to negative peer influences and low self esteem (Miller, 1996b).

While Jody Miller's work suggests leniency, at least in terms of the harshness of the placement, operates to the advantage of White over Black girls, the research of other scholars suggests the contrary. Older data suggests that White girls are more likely to have their physical freedom curtailed than any other group (Mann, 1984: Pawlak, 1977). Evidence of this phenomenon largely precedes the deinstitutionalization of status offenders[3] mandate, which predicates funding under the Juvenile Justice and Delinquency Prevention Act on states removing status offenders from secure facilities. Thus, its current validity is unclear.

As previously indicated, little empirical work studies the treatment of White males except as a foil for some other demographic group. Thus, to the extent that the literature supports a chivalry dividend for girls, greater severity for White boys can be inferred. To the extent that Black boys are the recipients of particularly severe treatment, White boys are the recipients of leniency.

[3] A status offender is a juvenile who has committed an offense that is illegal only because of the individual's status as a juvenile. In other words, status offenders are juveniles who have engaged in activities, which are not illegal for adults but are illegal for juveniles because of their age. Status offenses include such things as tobacco use, running away, curfew violations, incorrigibility, and truancy. See http://www.sd171.k12.id.us/pro/status_offender_program.htm for more information.

DATA AND METHODOLOGY

The dataset provided for this study contained all 86,118 cases that were referred to the juvenile court of Missouri in 1997. These data are routinely collected by every circuit court and are compiled for research and evaluation purposes as part of the Missouri Statewide Juvenile Information System. The Missouri Division of Youth Services ("DYS") released these data for analysis.

Because the focus of this analysis is on the impact of demographic characteristics on processing by the juvenile justice system, children referred to the juvenile court for abuse and neglect or for traffic matters were removed from this dataset (20,120 cases). Children who could not be designated as Black or White (i.e. race data was not reported or the children were Asian or Native American[4]) (1,247 cases) were also removed. In addition, due to computer problems, data from the 29th Circuit (Jasper County) could not be included.[5] This left 64,466 cases for analysis in this study. These 64,466 cases include referrals from each of Missouri's 115 counties except for Jasper County.

[4] Because Missouri has very small Asian and Native American populations, it is an unsuitable venue for the exploration of how those racial statuses influence the treatment of children within the juvenile justice system.

[5] The circuit court for Jasper County experienced computer problems in 1997 that resulted in the loss of most of their data. Because the remaining data, 285 cases, were not representative of the cases processed by Jasper County, they were removed from the dataset.

Detention status was used as the dependent variable in assessing the efficacy of additive and interactive approaches. "Detention" is a dichotomous measure reflecting whether the child was detained for some period of time prior to his or her adjudication hearing[6] (0=was not detained; 1=was detained). Out of the 64,457[7] cases containing data on detention status, less than 10 percent (N= 6,311) of the cases resulted in the child being detained pending a hearing (see Table 1).

Table 1. Frequency and Percent of Detention by Race and Sex Subgroups

Detention

	Black Female		Black Male		White Female		White Male		Total	
	N	%	N	%	N	%	N	%	N	%
Not Detained	4,633	90.05	10,531	81.97	13,530	92.73	29,452	92.38	58,146	90.20
Detained	511	9.93	2,316	18.03	1,055	7.23	2,429	7.62	6,311	9.79
Missing	1	0.02	1	0.01	5	0.03	2	0.01	9	0.01
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00	64,466	100.00
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	0.10	0.30	0.18	0.38	0.07	0.26	0.08	0.27	0.10	0.30

[6] A child was defined as detained if they spent any time in a secure (N=5,465) or non secure (N=847) detention facility prior to their adjudication hearing. An adjudication hearing is the juvenile analog to an adult criminal trial. This hearing determines whether the child committed the delinquent or status offense(s) alleged in the petition.

[7] Nine cases out of 64,466 cases that are the subject of this study lack data as to whether or not the child was detained. This represents an omission with regard to less than .014 percent of the study cases.

Race is one of the independent variables of primary concern. Race is a dichotomy measuring either Black (0) or White (1). All 64,466 cases used in this study have data indicating whether the child involved is Black or White. White children account for 46,473 (72.09%) of the cases used in this study. The remaining 17,993 (27.91%) cases involve Black children (see Table 1).

Sex is also a dichotomous variable. Males are coded as one and females are coded as zero. All 64,466 cases used in this study have data indicating whether the child involved was male or female. Boys account for 44,731 (69.39%) of the cases used in this study while girls account for 19,735 (30.61%) of the cases (see Table 1).

In order to ensure that uncovered relationships between the dependent variable, detention, and the independent variables, race and sex, are not spurious, it is necessary to control for other factors known to contribute to differential treatment. The seriousness of the charged offense, prior record, age and the presence of a detention facility in the processing jurisdiction have all been found to be statistically significant predictors of detention (Bishop & Frazier, 1992: Bortner & Reed, 1985: Frazier & Bishop, 1995: 1985: Frazier & Cochran, 1986: Kramer & Steffensmeier, 1978: Pope & Feyerherm, 1981: Schwartz et. al., 1987). Based upon racial threat theory, it has also been suggested that the percentage of minorities residing in the processing jurisdiction can also impact upon the severity with which the system treats Blacks (Blalock, 1967: Myers, 1990: Myers & Talarico, 1987). Each of these factors is controlled for in this study.

DESCRIPTION OF VARIABLES

The seriousness of the offense or offenses that gave rise to the child's referral will be jointly controlled by two variables. The first of these controls is the offense variable and the second is the concurrent delinquency variable. The offense variable measures the major allegation giving rise to the child's referral to the juvenile court.[8] It is the most serious offense associated with the incident that gave rise to the child's referral but is not necessarily the only offense with which the child was charged. Reporting rates were very high, and only seven of the 64,466 cases used in this study lacked offense data.

The offense data were consolidated into an eleven-category ordinal variable reflecting offense seriousness based upon statutory offense type and felony classification scheme (see Table 2). Close to 60% of the cases studied (N=36,688) involve a status offense or misdemeanor property offense (see Table 2). By contrast, far less than one percent of the cases involve deliberate lethal felonies or violent sexual felonies (see Table 2).

[8] Juvenile court personnel determined which offense was the major or most serious offense. Presumably, statutory classification and common sense guided this determination

Table 2. Offense by Race and Sex Subgroup

	Black Female		Black Male		White Female		White Male			
Most Serious Offense	N	%	N	%	N	%	N	%		%
Deliberate Lethal Felony (11)	0	0.00	14	0.11	4	0.03	3	0.01	21	0.03
Violent Sexual Felony (10)	4	0.08	90	0.70	8	0.05	122	0.38	224	0.35
Other Felony Against Persons (9)	191	3.71	793	6.17	178	1.22	844	2.65	2,06	3.11
Other Sexual Felony (8)	9	0.17	83	0.65	20	0.14	266	0.83	378	0.59
Felony Against Property (7)	279	5.42	1,826	14.21	913	6.26	4,098	12.85	,116	11.04
Drug Offenses (6)	69	1.34	786	6.12	494	3.39	1,884	5.91	333	5.02
Public Order Offenses (5)	302	5.87	757	5.89	602	4.13	1,587	4.98	,248	5.04
Misd. Against Persons (4)	1,259	24.47	2,490	19.38	1,852	12.69	5,944	18.64	545	17.91
Misd. Against Property (3)	1,523	29.60	3,898	30.34	3,175	21.76	8,710	27.32	17,	26.85
Runaway (2)	593	11.53	535	4.16	2,898	19.86	2,121	6.65	7	54
Other Status Offenses (1)	916	17.80	1,576	12.27	4,442	30.45	6,301	19.76	235	20.53
Sub total	5,145	100.00	12,848	100.00	14,586	99.97	31,880	99.99	459	99.99
Missing	0	0.00	0	0.00	4	0.03	3	0.01	7	0.01
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00	,466	100.00
	Median	Std Dev.	Median	Std Dev.	Median	Std Dev.	Median	Std Dev.	Median	Std Dev.
	3	1.89	4	2.25	2	1.87	3	2.15	3	2.15

As is clear from a review of Table 2, there are demographic differences in the offenses with which children are charged. The median offense for Black males is misdemeanor against persons, for White males and Black females, it is misdemeanor against property, and for White girls it is running away. These differences in median offense levels are primarily caused by the greater proportion of Black boys who were charged with felonies against property and persons than children belonging to other demographic groups.

Concurrent delinquency is the other dimension of offense seriousness, which will be controlled. Concurrent delinquencies are all the acts of delinquent offending associated with a particular referral except for the most serious offense associated with that referral. The most serious offense associated with the referral is, of course, measured by the offense variable discussed above. The presence of one or more concurrent delinquencies indicates that the child faced multiple charges arising out of the incident that caused the referral.

Concurrent delinquency is recorded for all 64,466 cases that are the subject of this study. Unfortunately, the data reflect only the number and not the nature of the delinquent offenses associated with the primary referral (see Table 3). About 61% (N=39,156) of those referred to the juvenile court in 1997 had one concurrent delinquency. Almost 27% (N=17,146) of the sample had no concurrent delinquencies. Only about 13% (N=8,164) of the cases involved two or more concurrent delinquencies. There were, however, notable demographic differences in concurrent delinquency. White females were the

least likely to have multiple charges (mean = .64), while Black males were the most likely to face multiple charges (mean = 1.10) (see Table 3).

Table 3. Concurrent Delinquency by Sex and Race

No. of Concurrent Delinquency	Black Female		Black Male		White Female		White Male	
	N	%	N	%	N	%	N	%
None	1,487	28.90	2,027	15.78	6,549	44.89	7,083	22.22
1	3,143	61.09	8,483	66.03	7,125	48.83	20,405	64.00
2 or More	515	10.01	2,338	18.20	916	6.28	4,395	13.78
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00
	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.	Mean	Std Dev.
	0.84	0.70	1.10	0.84	0.64	0.83	0.99	0.94

In addition to controlling for offense and concurrent delinquency, I am also controlling for two dimensions of prior record. The first, prior delinquency, will control for the number of previous referrals for delinquent offenses (see Table 4a). The second variable, prior status referrals, will control for the number of previous referrals for status offenses (see table 4b).

Table 4a. Prior Delinquency Referrals by Sex and Race

No. of Prior Delinquent Referrals	Black Female		Black Male		White Female		White Male	
	N	%	N	%	N	%	N	%
None	2,289	44.49	3,511	27.33	9,271	63.54	15,233	47.78
1	1,236	24.02	2,208	17.19	2,549	17.47	5,485	17.20
2	603	11.72	1,498	11.66	1,214	8.32	3,094	9.70
3	312	6.06	1,116	8.69	595	4.08	2,121	6.65
4	199	3.87	829	6.45	344	2.36	1,459	4.58
5 or More	506	9.83	3,686	28.69	617	4.23	4,491	14.09
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	1.67	3.06	3.87	5.33	0.87	1.80	2.09	4.00

Table 4b. Prior Status Referrals by Sex and Race

No. of Prior Status Referrals	Black Female		Black Male		White Female		White Male	
	N	%	N	%	N	%	N	%
None	3,352	65.15	7,779	60.55	10,066	68.99	22,060	69.19
1	734	14.27	2,251	17.52	1,910	13.09	4,157	13.04
2	409	7.95	1,137	8.85	907	6.22	2,029	6.36
3	208	4.04	621	4.83	513	3.52	1,132	3.55
4	131	2.55	346	2.69	338	2.32	702	2.20
5 or More	311	6.04	714	5.56	856	5.87	1,803	5.66
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	1.03	2.36	1.03	2.08	1.01	2.81	0.95	2.50

As with the concurrent delinquency data, the prior record data indicate only the number and not the substance of prior offenses, except to distinguish between prior delinquent and prior status offenses. This deficit is unfortunate but, unlike many prior studies (Bishop & Frazier, 1992: Frazier & Bishop, 1985), the prior record data are not limited to

the study period but track a child's offending history from birth.

As is discernible from Table 4a, almost half the cases involved children with no prior delinquent referrals and less than 15% of the cases involved chronic delinquent offenders with five or more priors. Demographic differences, however, are apparent in the prior delinquency data. White girls have a mean prior delinquency level of less than one while Black boys have a mean prior delinquency level of almost four (see Table 4a). Black females and White males have mean prior delinquency levels of 1.67 and 2.09 respectively. This indicates that boys, particularly Black boys, were far more likely to come before the juvenile court with an extensive prior record. By contrast, there are but scant demographic differences when it comes to prior status referrals and most children, irrespective of race or sex, do not have a prior status referral (see Table 4b).

The raw data contained a date of referral and a date of birth for each child. From these data, an age at referral was calculated (see Table 5).[9] Of the 63,719 cases for which age is determinable, over two thirds (N= 43,761; 68.68%) involve children between 14 to 16. Thus, despite recent concern regarding crimes committed by very young offenders, these data do not suggest that very young children commit a significant proportion of juvenile crime. Race seems to have little influence on age at referral. Black children have a mean referral age of 14.14. White children have a mean referral age of 14.23 (see Table 5).

[9] Cases indicating an age of referral of less than seven or more than 17 were coded as missing on the age variable on the assumption that these ages were incorrect. This affected only 1.16% (N=747) of the cases included in this study.

Table 5. Age by Sex and Race

	Black Female		Black Male		White Female		White Male	
Age	N	%	N	%	N	%	N	%
Under 12	745	14.48	2,201	17.13	1,643	11.26	5,462	17.13
13	813	15.80	1,659	12.91	1,807	12.39	3,962	12.43
14	1,089	21.17	2,476	19.27	3,030	20.77	5,521	17.32
15	1,225	23.81	2,999	23.34	3,901	26.74	7,136	22.38
16	1,120	21.77	3,069	23.89	3,694	25.32	8,501	26.66
17	111	2.16	360	2.80	336	2.30	859	2.69
Sub Total	5,103	99.18	12,764	99.35	14,411	98.77	31,441	98.61
Missing	42	0.82	84	0.65	179	1.23	442	1.39
Total	5,145	100.00	12,848	100.00	14,590	100.00	31,883	100.00
Raw Age	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	14.17	1.69	14.13	1.89	14.39	1.64	14.15	1.97

In addition to controlling for individual level attributes such as offense, prior record, and age that might justify disparate treatment, two jurisdictional attributes will also be controlled. The first of these, percent minority, will control for the percentage of the juvenile population in the processing county comprised of minorities (see Table 6). Data regarding the percentage of minority children residing in each county in 1997 was obtained from the *Kids Count Missouri 1998 Data Book*.[10] The percent minority recorded in this source reflects the percentage of children under age 18 who are non-white. According to *Kids Count Missouri 1998 Data Book*, Missouri had a statewide minority population of about 17.5 percent in 1997. This minority youth population was not, however, evenly distributed across Missouri's counties. It ranged from .40 percent to 67.70 percent with a mean of 18.51 and a standard deviation of 19.49. Excluding Jasper county (29th Circuit) (i.e. the data used here), the mean is 18.56 with a standard

[10] This report, including all of the data pertaining to minority youth populations used in this project, is available via the World Wide Web at http://oseda.missouri.edu/kidscount/98/index.html.

deviation of 19.51. Each case was then coded with the percent minority corresponding to the minority population of the county that processed the case. This created a ratio variable reflecting percent minority for all 64,466 cases used in this study.

Table 6. Racial Concentration of the Processing County by Race and Sex

	Black Female		Black Male		White Female		White Male	
	N	%	N	%	N	%	N	%
Low .40% - 5.8%	103	2	277	2.16	6,020	41.26	13,273	41.63
Medium 6.0% - 18.0%	1,107	21.52	2,404	18.71	5,630	38.59	11,738	36.82
High 24.9% - 67.7%	3,935	76.48	10,167	79.13	2,940	20.15	6,872	21.55
Total	5,145	100	12,848	100	14,590	100	31,883	100
Minority Percent	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	35.89	21.46	37.77	21.84	11.17	12.15	11.41	12.74

The second jurisdictional attribute that will be controlled reflects whether the processing jurisdiction had access to a detention facility (see Table 7). This factor is controlled for, by measuring whether a detention facility was located within the circuit having jurisdiction over the case in 1997. This variable was created by contacting the Missouri Juvenile Justice Association ("MJJA") to find out which of Missouri's 45 judicial circuits had detention facilities located within their geographic boundaries in 1997. The MJJA provided me with information that indicated that 20 circuits had detention facilities located within their boundaries during 1997.[11] Circuits were then coded as either

[11] The presence of detention facilities is not simply an urban phenomenon in Missouri. While some facilities are located in urban areas, such as the 16th (Kansas City) and 22nd (St. Louis City) Circuits, others

possessing a detention facility (1) or not possessing a detention facility (0). Black children were much more likely than White children to be processed by a circuit with a detention facility (compare 91.56% with 65.57%) (see Table 7).

Table 7. Presence of a Detention Facility by Race and Sex

	Black Female		Black Male		White Female		White Male	
Detention Facility	N	%	N	%	N	%	N	%
No	439	8.53	1,080	8.41	4,976	34.11	11,026	34.58
Yes	4,706	91.47	11,768	91.59	9,614	65.89	20,857	65.42
Total	5,145	100	12,848	100	14,590	100	31,883	100
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
	0.91	0.28	0.92	0.28	0.66	0.47	0.65	0.48

REGRESSION RESULTS

Because the dependent variable, detention, is dichotomous, logistic regression was used to analyze the extent to which race and sex predicted detention status after controlling for offense, concurrent delinquency, prior delinquency, prior status offense, age, percent minority and detention facility (see Table 8). A researcher taking an additive approach to determining the impact of sex and race on detention could use these results to isolate the separate effects these demographic statuses have on the likelihood of detention and then draw conclusions about their combined effects on Black females, Black males, White females and White males.

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are located in very rural areas, such as the 30th (Benton, Dallas, Hickory, Polk and Webster Counties) and the 44th (Douglas, Ozark and Wright Counties) Circuits

Table 8. Predictors of Detention

Detained = 1; Not Detained = 0

(N = 64,466)

Variable	Log. Coeff.	Std. Error	Wald
Race (white = 1)	-0.435**	0.035	152.659
Sex (male = 1)	-0.02	0.033	0.371
Offense	0.220**	0.007	1,150.08
Conc. Delinq.	0.144**	0.015	98.258
Pr. Delinq. Ref.	0.037**	0.003	172.868
Pr. Status Ref.	0.021**	0.005	16.286
Age	0.156**	0.009	310.031
Percent Minority	0.006**	0.001	63.913
Detention Facility	0.367**	0.04	83.92
Constant	-5.794**	0.138	1,775.12

Chi-Sq.	df	C & S R^2
3979.440**	9	0.061

Classification Tables

	Predicted y Value		
Observed y Value	Not Detained	Detained	% Correct
Not Detained	57,345	87	99.85
Detained	6,170	102	1.63
		overall	90.18

* significant at or above .05 level

** signifies significance at or above the .001 level.

C & S R2 is an abbreviation for Cox and Snell R2.

Table 8a. Odds Ratios of Detention*

	Odds Ratio
Black Children	1.54
White Children	0.65

* Odds ratios presented in this table are based upon the regression results reported in Table 8.

As is clearly discernable from Table 8, the results of this regression equation indicate that sex is not a significant predictor of detention and that being White significantly reduces the likelihood of detention. All of the control variables also have statistically significant impacts on detention but in a positive direction. These results indicate that being Black makes an independent and statistically significant contribution to a child's likelihood of receiving detention as does being charged with a more serious offense, having a larger number of concurrent delinquencies, prior delinquencies or status referrals, being older and being processed by a county with a higher percentage of minorities and ready access to a detention facility.

By consulting the Wald statistics, the relative influence of the independent and control variables on the dependent variable can be determined because the larger the Wald statistic, the stronger the relationship. The Wald statistics indicate that offense has the largest impact on detention followed by age, prior delinquency, race, concurrent delinquency, detention facility, percent minority and prior status referral. Using odds ratios to determine the relative probability of receiving detention for Blacks and Whites indicates that a Black child is 1.54 times more likely to receive detention than a comparably situated White child.

Given the insignificance of sex, one would expect there to be no differences in the likelihood of detention among boys and girls belonging the same racial group. In other words, taking and additive approach, one would expect White girls and boys to have the same probability of detention. Black boys and girls would be expected to have a higher probability of detention than Whites but one would not anticipate differences between Black boys and girls based upon these regression results (see Table 8). While the regression analysis conducted so far allows a researcher to determine the separate impacts of race and sex on detention, it does not really allow the researcher to get at the interactive effects these statuses may have on detention. To get at interactive effects, separate analyses of Black females, Black males, White females and White males must be undertaken (see Table 9). Looking at the regression equation calculated using only Black females, it is apparent that offense, concurrent delinquency, prior delinquency, prior status referrals, age, percent minority and detention facility all increase a Black girls chances of being detained. The same is true for Black boys.

Table 9. Predictors of Detention Among Different Demographic Groups

	Black Females Only			Black Males Only			White Females Only			White Males Only		
Variable	Log. Coeff.	Std. Error	Wald	Log. Coeff.	Std. Error	Wald	Log. Coeff.	Std. Error	Wald	Log. Coeff.	Std. Error	Wald
Offense	0.149**	0.025	34.471	0.292**	0.011	662.042	0.143**	0.018	60.483	0.206**	0.010	424.354
Conc. Delinq.	0.378**	0.067	31.200	0.244**	0.031	62.896	-0.040	0.050	0.653	0.152**	0.019	64.575
Pr. Delinq. Ref.	0.053**	0.013	16.673	0.035**	0.004	63.259	0.101**	0.014	51.578	0.035**	0.004	67.558
Pr. Status Ref.	0.060**	0.018	10.654	0.030*	0.012	5.967	0.015	0.010	2.209	0.016*	0.008	4.217
Age	0.080*	0.031	6.740	0.137**	0.016	78.684	0.120**	0.022	28.983	0.194**	0.014	191.227
Percent Min.	0.006*>	0.002	6.883	0.013**<	0.001	112.902	-0.007*	0.003	5.265	-0.004*	0.002	4.070
Detention Fac.	0.665*>	0.253	6.896	1.097**<>	0.148	55.259	0.143*<>	0.074	3.690	0.470**<	0.053	77.633
Constant	-5.317**	0.500	113.022	-6.917**	0.268	667.646	-4.847**	0.331	214.440	-6.758**	0.211	1,022.070
	Chi-Sq.	df	C&S R^2	Chi-Sq.	df	C&S R^2	Chi-Sq.	df	C&S R^2	Chi-Sq.	df	C&S R^2
	200**	7	0.039	1656**	7	0.122	180**	7	0.012	1283**	7	0.04

<> indicates the existence of significant differences between the variables indicated, according to the Brame and Paternoster test.

Among White boys offense, concurrent delinquency, prior delinquency, prior status referrals, age, and detention facility all have significant positive impacts on detention while percent minority has a negative impact on detention. White girls are similar to White boys except among White girls neither concurrent delinquency nor prior status referral is significantly related to detention (see Table 9).

These results suggest that although sex was insignificant in the aggregate, sex does indeed influence the imposition of detention. Not only do different variables contribute to detention among White boys and girls but a quick perusal of associated Wald statistics

suggest that the relative importance of various factors is conditioned by a child's combined race and sex status (see Table 9). For example, living in a jurisdiction with a high percentage of minorities is the second biggest predictor of detention for Black boys but is of relatively little importance for children belonging to other demographic groups. Similarly, concurrent delinquency is the second biggest predictor of detention for Black girls but is insignificant for White girls and is of only fifth importance among boys.

Using the separate regression equations to calculate probabilities further high-lights the interactive effect of sex and race on a child's likelihood of receiving detention. Using the appropriate measures of central tendency and rounding where logically appropriate, the probability of detention for the "typical"[12] case was calculated. This indicated that a "typical" White male had a 5.78% chance of being detained while the typical White female had a 7.42% chance of receiving detention. Typical Black girls and boys had an 8.08% and 8.00% chance of being detained respectively.

An individual inclined to take an additive approach to studying the interaction of race and sex would have no need to conduct analyses beyond those shown in Table 8. These regression results parse out for study the separate impacts of race and sex, which is all the additive approach contemplates. From these results, it appears that being Black is a detriment to a child in terms of detention but that sex has no impact on the detention decision (see Table 8). These results suggest racism may have been a problem in

[12] The "typical" case was determined by setting the values of the control variables to whatever the appropriate measure of central tendency was, which resulted in the following values being used to calculate probabilities of detention: offense=3, concurrent delinquency=1, prior delinquency=2, prior status referrals=1, age=14, percent minority=18.56 and detention facility=1.

Missouri's application of detention but sexism or chivalry played no role. A logical conclusion from the results displayed in Table 8 is that Blacks are more likely to be detained than Whites and that boys and girls within each of these racial groups are equally likely to be detained. In fact, this conclusion is erroneous. As indicated by the separate probabilities of detention, White boys appear to have a "special" status that diminishes their likelihood of receiving detention. This effect appears to be jointly conditioned by both sex and race and suggests that the interaction of the two statuses protects White boys from the harsher treatment afforded White girls and Black girls and boys.

CONCLUSION

As is apparent from consideration of the foregoing, an additive approach, at best, yields an incomplete understanding of the joint effects of race and sex. The results of this study suggest that additive analyses may not only be incomplete, they can actually be deceptive. Examining race and sex differences separately suggests girls are treated neutrally when it comes to detention imposition (See Table 8). Analyses of interactive race and gender effects, accomplished by comparing Black girls, Black boys, White girls and White boys and calculating probabilities of detention, however, indicates that sex is not meaningless or insignificant. Rather, sex appears to interact with race in ways that affect a child's chances of detention. Specifically it appears that both Black and White girls are disadvantaged vis-à-vis White (but not Black) boys when it comes to detention (see Table 9).

In addition, failing to conduct separate subgroups analyses to ferret out interactive effects disguises the fact that different variables contribute to detention among children belonging to different demographic groups (see Table 9). These differences suggest that race and sex not only interact with each other in ways that are salient in terms of detention but that these combined statuses interact with various individual (e.g., prior record) and structural (county's percent minority) level factors in ways that impact upon the application of detention. Thus, interactive approaches are not only better at locating direct interactive effects such as differences in the treatment of White girls as opposed to White boys but also indirect interactive effects such as the impact of being Black and male on the likelihood of detention in a jurisdiction with a high percentage of minorities

Being processed by a jurisdiction with a high percentage of minorities is the second most important factor (after offense) in determining detention among black boys (see Table 9). Among Black girls it is only the fifth most important predictor of detention. Percent minority is not only relatively less important for Black girls, this factor also makes a lesser contribution in absolute terms as well.[13] Having a high percentage of minorities in the processing jurisdiction actually decreases the chance that a White child will be detained. According to these data, race indirectly affects Black boys through various structural features. Specifically, these results suggest that in jurisdictions with a high percentage of minorities, decision makers may have bought into the notion of Black boys as "dangerous" (Chambliss, 1999: Miller, 1996a) and thus reacted toward them in a

[13] To make this determination, the test described in Brame, Paternoster, Mazerolle, & Piquero (1998) was conducted. This test establishes whether the observed difference between a regression coefficient in one population (here, Black boys only) is significantly different from the same coefficient in another population (here, Black girls only).

particularly punitive manner (at least as far as preventative detention is concerned). These results further indicate the importance of taking an integrated approach to understanding the affect of race and sex on the treatment of juveniles and highlight the need for more research focusing on uncovering interactive race and gender effects that may be further conditioned by structural or other individual level factors.

Further empirical work documenting the interactive effects of race and sex under a variety of circumstances will have to be done before definitive statements about interactive effects can be made. It may be especially instructive to isolate the factors that condition the interactive effects of race and sex. In any event, these results suggest that work based on an additive approach provides a potentially incomplete and inaccurate picture of how children belonging to various demographic groups are treated by the system.

References

Bishop, D M. & Frazier, C. E. (1992) 'Gender Bias in Juvenile Justice Processing: Implications of the JJDP Act', *Criminal Law and Criminology,* Vol.82, pp.1162-1186.

Blalock, H. M. (1967) *Toward a Theory of Minority-Group Relations*, New York: Wiley.

Blumstein, A. (1993) 'Racial Disproportionality of U.S. Prison Populations Revisited', *University of Colorado Law Review,* Vol.64, pp.743-60.

Bortner, M. A. & Reed, Wornie L. (1985) 'The Preeminence of Process: An Example of Refocused Justice Research', *Social Science Quarterly,* Vol.66, No.2, pp.413-425.

Brame, R., Paternoster, R., Mazerolle, P. & Piquero, A. (1998) 'Testing for the Equality of Maximum Likelihood Regression Coefficients between two Independent Equations', *Journal of Quantitative Criminology,* Vol.14 No.3, pp.245-261.

Chambliss, W. J. (1999) *Power, Politics and Crime*, Boulder CO: Westview Press.

Chambliss, W. J. (1997) 'Policing the Ghetto Underclass: The Politics of Law and Law Enforcement' in Barry W. Hancock & Paul M. Sharp (1997), *Public Policy, Crime and Criminal Justice*, Upper Saddle River, NJ: Prentice-Hall.

Chambliss, W. J. (1995) 'Crime Control and Ethnic Minorities: Legitimizing Racial Oppression by Creating Moral Panics' in Darnell F. Hawkins (1995), *Ethnicity, Race and Crime Perspectives Across Time and Place*, Albany, New York: State University of New York Press.

Chesney-Lind, Meda & Shelden, R. G. (1998) *Girls, Delinquency and Juvenile Justice,* 2nd ed., Belmont, CA: West/Wadsworth.

Clarke, S. H. & Koch, G. G. (1980) 'Juvenile Court: Therapy or Crime Control, and do Lawyers Make a Difference?', *Law and Society Review,* Vol.14, No.2, pp.263-308.

Dale, M. J. (1998) 'Lawsuits and Public Policy: The Role of Litigation in Correcting Conditions in Juvenile Detention Centers', *University of San Francisco Law Review.* Vol.32, pp. 675-733.

Feld, B. (1999) *Bad Kids: Race and the Transformation of the Juvenile Court,* New York: Oxford University Press.

Frazier, C. E. & Bishop, D. M. (1995) 'Reflections on Race Effects in Juvenile Justice', in Kimberly Kempf-Leonard, Carl E. Pope and William H. Feyerherm, (1995), *Minorities in Juvenile Justice*, Thousand Oaks, CA: Sage.

Frazier, C. E. & Bishop, D. M. (1985) 'The Pretrial Detention of Juveniles and its Impact on Case Disposition', *Journal of Criminal Law and Criminology,* Vol. 76, pp.1132-1152.

Frazier, C. E. & Cochran, J. C. (1986) 'Detention of Juveniles: Its effect on Subsequent Juvenile Court Processing Decisions', *Youth and Society,* Vol.17 No.3, pp.286-305.

Geller, D. A. (1995) 'Putting the "Parens" back into Parens Patriae: Parental Custody of Juveniles as an Alternative to Pretrial Juvenile Detention', *New England Journal on Criminal and Civil Confinement,* Vol.21, pp.509-529.

Georges-Abeyie, D. (1984) 'The Criminal Justice System and Minorities – A Review of the Literature' in Daniel Georges-Abeyie (1984) *The Criminal Justice System and Blacks*, New York: Clark Boardman Company, Ltd.

Hagan, J. & Peterson, R. D. (1995) 'Criminal Inequality in America: Patterns and Consequences', in John Hagan & Ruth D. Peterson (1995) *Crime and Inequality*, Stanford CA: Stanford University Press.

Katz, C. M. & Spohn, C. (1995) 'The Effect of Race and Gender on Bail Outcomes: A Test of an Interactive Model', *American Journal of Criminal Justice,* Vol.19, No.2, pp.161-184.

Klein, D. (1995) 'The Etiology of Female Crime: A Review of the Literature', in Barbara Raffel Price & Natalie J. Sokoloff (1995), *The Criminal Justice System and WomenOffenders, Victims, and Workers,* 2nd ed. New York: McGraw-Hill.

Kempf-Leonard, K. & Sontheimer, H. (1995) 'The Role of Race in Juvenile Justice in Pennsylvania', in Kimberly Kempf-Leonard, Carl E. Pope & William H. Feyerherm, (1995), *Minorities in Juvenile Justice*, Thousand Oaks, CA: Sage.

Kramer, J. H. & Steffensmeier, D. J. (1978) 'Differential Detention', *Pepperdine Law Review*, Vol.5, pp.795-807.

Krisberg, B. & Austin , J. F. (1993) *Reinventing Juvenile Justice*, Newbury Park, CA: Sage.

Lewis, D. K. (1981) 'Black women offenders and criminal justice: Some theoretical considerations', in Marguerite Q. Warren (1981), *Comparing Female and Male Offenders,* Beverly Hills, CA: Sage Publications

Mann, C. R. (1995) 'Women of Color and the Criminal Justice System', in Barbara Raffel Price & Natalie J. Sokoloff (1995), *The Criminal Justice System and Women: Offenders, Victims, and Workers,* 2nd ed. New York: McGraw-Hill.

Mann, C. R. (1984) *Female Crime and Delinquency*, University, AL: University of Alabama Press.

Miller, J. (1996a) *Search and Destroy : African-American Males in the Criminal Justice System,* New York: Cambridge University Press.

Miller, J. (1996b) 'An Examination of Disposition Decision-making for Delinquent Girls' in Martin D. Schwartz & Dragan Milovanovic (1996), *Race, Gender, and Class in Criminology*, New York: Garland Publishing, Inc.

Myers, M. A. (1990) 'Black Threat and Incarceration in Postbellum Georgia', *Social Forces,* Vol.69, No.2, pp.373-393

Myers, M. A. & Talarico, S. M. (1987) *The Social Context of Criminal Sentencing*, New York: Springer-Verlag.

Pollak, O. (1961) *The Criminality of Women*, New York: Perpetua Book A. S. Barnes and Company, Inc.

Pope, C. E. & Feyerherm, W. H. (1981) 'Race and Juvenile Court Dispositions: An Examination of Initial Screening Decisions', *Criminal Justice and Behavior*, Vol.8, No.3, pp.287-301.

Parent, D. G. (1993) 'Conditions of Confinement', *Juvenile Justice* Vol.1, No.1, pp.2-7.

Parikh, A. I., Jay, M. T., Kassam, D., Kociemba, T., Dworkis, B., Bradley, P. & Takata K. (1997) 'Clostridium Perfringens Outbreak at a Juvenile Detention Facility Linked to a Thanksgiving Holiday Meal', *Western Journal of Medicine,* Vol.166, No.6, pp.417-423.

Pawlak, E. J. (1977) 'Differential selection of juveniles for detention', *Journal of Research in Crime and Delinquency*, Vol.14, No.2, pp.152-165.

Schwartz, I. M., Fishman, G., Hatfield-Rawson, R., Krisberg, B.A. & Eisikovits, Z. (1987) 'Juvenile Detention: The Hidden Closets Revisited', *Justice Quarterly*, Vol.4, No.2, pp.219-235.

Simpson, S. S. (1989) 'Feminist Theory, Crime and Justice', *Criminology,* Vol.27, No.4, pp.605-631.

Snyder, H. N. & Sickmund, M. (1995) *Juvenile Offenders and Victims: A National Report*, National Center for Juvenile Justice, Washington D.C.: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Prevention.

Spelman, E. V. (1988) *Inessential Woman: Problems of Exclusion in Feminist Thought,* Boston: Beacon Press.

Spohn, C. & Spears, J. (1997) 'Gender and Case processing Decisions: A Comparison of Case Outcomes for Male and Female Defendants Charged with Violent Felonies', *Women and Criminal Justice*, Vol.8, No.3, pp.29-59.

Spohn, C., Welch, S. & Gruhl J. (1985) Women Defendants in Court: The Interaction between Sex and Race in Convicting and Sentencing', *Social Science Quarterly*, Vol.66, No.1, pp.178-185.

Spohn, C. & Cederblom, J. (1991) 'Race and Disparities in Sentencing: A Test of the Liberation Hypothesis', *Justice Quarterly,* Vol.8, No.3, pp.305-327.

Spohn, C. & Holleran, D. (2000) 'The Imprisonment Penalty Paid by Young, Unemployed Black and Hispanic Male Offenders', *Criminology,* Vol.38, No.1, pp.281-306.

Steffensmeier, D., Ulmer, J. & Kramer, J. (1998) 'The Interaction of Race, Gender, and Age in Criminal Sentencing: The Punishment Cost of being Young, Black and Male', *Criminology*, Vol.36, No.4, p.763-798.

Wilbanks, William (1987) *The Myth of a Racist Criminal Justice System*, Monterey, CA: Brooks/Cole Publishing Company.

Young, V. D. (1994) 'Race and Gender in the Establishment of Juvenile Institutions: The Case of the South, *The Prison Journal,* Vol.74, No.2, pp.244-265.